

Aspects of the Morphosyntax of Tarifit Berber

Abdelhak El Hankari

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PREFACE

This book is an improved and refined version of my PhD dissertation completed in 2010, at the University of Queensland, Australia. The analyses in chapter five on the Construct State, chapter six on word order and chapter seven on clitics have been significantly improved. Chapter nine on the causative system makes use of a different analysis from an earlier version of my PhD. The current chapter is hoped to have more theoretical depth.

The aim

The main purpose of the book is twofold: (1) to provide a thorough description of the main aspects of the morphosyntax of the understudied Tarifit Berber, and (2) to bring these aspects within the range of current developments within the Minimalist approach to syntactic theory. More specifically, I show how the Distributed Morphology framework informs our understanding of some aspects of the morphology and syntax of Tarifit and how the data from this Berber language may contribute to a better understanding of the tenets of this theory. The importance of the book comes from the fact that it is not limited to a particular area of grammar, but it looks at the major grammatical aspects of Tarifit. This includes a general description of grammar, the morphology of noun classes, the Construct State, word order, the clitic system, and causatives.

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I would like to thank Rob Pensalfini. Rob is one of those people who will pinpoint to the problem and will provide alternatives to fix it. I am immensely grateful to Jamal Ouhalla. His expertise in Berber made all the difference. Jamal always finds time to answer my questions. I would like to thank Mary Laughren for reading my final draft and for her insightful comments. She always made herself available to discuss various issues related to the topics investigated.

LIST OF ABBREVIATIONS

1, 2, 3	1 st , 2 nd , 3 rd person.	INESS	Inessive
ABLAT	Ablative	INSTR	Instrument
AGR	Agreement	LF	Logical Form
ALL	Allative	LOC	Locative
ASP	Aspect	M	Masculine
AUX	Auxiliary	N	Noun/Nominal
BENEF	Benefactive	NEG	Negation
CAUS	Causative	NOM	Nominative
CL	Clitic	NUM	Number
COMIT	Comitative	OBJ	Object
COMP	Complementiser	PASS	Passive
COMPAR	Comparative	PERF	Perfective
CONJ	Conjunction	PL	Plural
COP	Copula	POSS	Possessive
DAT	Dative	PP	Prepositional Phrase
DEM	Demonstrative	PRT	Participle
DP	Determiner Phrase	PST	Past Tense
DIR	Directional (marker)	RECIP	Reciprocal
EPP	Extended Projection Principle	REFL	Reflexive
F/FEM	Feminine	IMPERF	Imperfective
FUT	Future	INCHOA	Inchoative
G	Gender	INESS	Inessive
GEN	Genitive	INCHOA	Inchoative
IMPERF	Imperfective	INESS	Inessive
INCHOA	Inchoative	SG	Singular

INTRODUCTION

The aim of this book is to investigate the main aspects of the morphosyntax of the under-studied Tarifit Berber, spoken in northern Morocco. The data used are based on the author's knowledge of the language as a native speaker, but data are checked with other native speakers as needed. The IPA system is used for the representation of the data. The topics investigated in the book include a basic grammatical description of Tarifit, the morphology of noun classes, the Construct State (CS) phenomenon, word order, clitics and causativity. This chapter is a preliminary discussion of the topics investigated, which aims to provide the reader with a clear picture about the key issues examined in each chapter.

Following standard practice in the linguistic tradition when investigating a spoken/heritage language, the next chapter (i.e. chapter two) aims to familiarize the reader who has little or no prior knowledge of Berber, and Tarifit in particular, with some general background information on the history and sociolinguistics of this language. This includes a historical overview, the linguistic situation in Morocco and the sociolinguistic status of Berber compared to other languages spoken and used in that country. Some similarities and differences between Tarifit and other Berber languages are also discussed at the end of the chapter.

Chapter three outlines the main tenets of Distributed Morphology (DM) (Halle and Marantz 1993 et al.), which is the framework adopted for the investigation of some aspects of the morphosyntax of Tarifit. Many of DM's key proposals are illustrated by showing how Tarifit data are extremely amenable to analysis within this theory. One of the aspects I discuss in this chapter is the ambiguity of basic lexical roots between nouns and verbs an issue that was pointed out previously by other Berberists (Guerssel 1986, Ouhalla 1988). Under a lexicalist approach (i.e. generative lexicon) according to which lexical items must be specified for their grammatical category, the ambiguity of these roots between nouns and verbs may be problematic, such that they would have to be redundantly listed both as nouns and verbs. Conversely, I show that DM would not face the redundancy problem and provides a theory of Berber roots in that it eliminates even those rules replacing them with independently necessary

syntactic Merge. Other predictions of the theory having to do with morphology and semantics are also discussed in that chapter.

Chapter four provides a description of the morphosyntax of Tarifit, paving the way to an in-depth theoretical treatment of these aspects in subsequent chapters. The category-less hypothesis explored in the previous chapter is applied on the system of parts of speech in greater detail. This approach leads me to propose an optimal binary division of word class in Tarifit that is either nominal or verbal.

The morphology of nouns, which consists of number and gender, is generally argued to have a mix of concatenative morphology and non-concatenative morphology that affects the vocalic system inside the root. The alternation between singular and plural in (1) provides a basic picture of this morphology. For instance, nouns in (1a&b) make use of an affix-based morphology where singular is marked with a prefix and plural is marked with a prefix and a suffix. The noun in (1c) behaves similar to (1b) in that the plural in the suffix position is realized by *-an* but (1c) differs in that the noun displays what appears to be an ablaut marking that affects the last vowel of the root. A similar process is displayed by the noun in (1d) where the vowel /i/ that is part of the root becomes /a/ when in plural. The second plural marker with the noun in (1e) appears to be an infix but the same marking in (1f) proceeds by substitution. That is, the second vowel changes from /a/ to /u/. It is in this sense that cases like (1c, d, e, and f) are generally argued to display a non-concatenative kind of morphology.

(1)

	SINGULAR	PLURAL		SINGULAR	PLURAL
a.	a-βrið	i-βrið-n	b.	a-rɛm	i-rɛm-an
	SG-road	PL-road-PL		SG-camel	PL-camel-PL
c.	ø-iθri	ø-iθr-an	d.	a-jaθir	i-jaθar
	SG-star	SG-star-PL		SG-mat	PL-mat _{PL}
e.	a-mɕan	i-m-u-ɕan	f.	a-faða	i-fuða
	SG-place _{PL}	PL-place _{PL}		SG-cactus	SG-cactus _{PL}

Under a late insertion approach in which all vocabulary items compete for insertion with no form is derived from another, I argue for an affix-based marking of number. However, some independently motivated phonological processes may mask underlying regular morphological paradigms. More specifically, the insertion of vocabulary items may trigger some re-writing

rules that are phonologically motivated but bear no relevance to the morphological system.

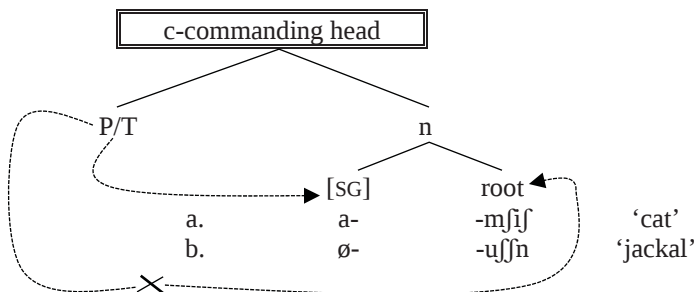
The Construct State (CS) received considerable attention in the Berber linguistic literature. Chapter six evaluates this literature and classifies these works into two camps: (1) a camp which associates CS with case and (2) another camp which associates it with DP, by arguing that the CS is a D-head. In this chapter, the two claims are disputed. Alternatively, I demonstrate that the phenomenon is simply a language-specific property having to do with syntactic constituency. More specifically, the CS is argued to be a syntactic phenomenon that arises from a structural relationship between a DP and an immediately c-commanding head that must be T or P. These two syntactic heads are then interpreted at PF as one phonological word. An illustration of the CS marking is represented as in (2):

(2)

FREE STATE	CONSTRUCT STATE
a. a-mʃiʃ	u-mʃiʃ
SG-cat	CS-cat
b. ø-ʉʃʃn	u-ʉʃʃn = /wuʃʃn/
NUM-jackal	CS-jackal

In (2a), the CS is marked on the initial position of the nouns. In (2b), however, the initial vowel is spared from this marking. Instead, the CS is added/prefixed to the noun. Descriptively, this set of nouns do not have an overt prefix number marking and the initial vowel in (2b) is part of the lexical root. By assuming the DM framework, I propose an analysis that formalizes this typology providing the CS with a theoretical basis. The approach relies on the fundamental argument that nouns have a complex structure, which is formed in the syntax. Therefore, investigating the relative hierarchical depth within the structure of nouns correctly predicts the exact position of the CS marking. The basic CS configuration is schematized as in (3):

(3)



The CS in that derivation is marked on the initial vowel of the noun. However, this vowel can only be a prefix as in (3a). When the vowel is part of the root and the number feature is not overtly marked, as in (3b), the CS morpheme is simply added/prefixed to the lexical root. In structural terms, the relevant marking consistently falls on the functional category-defining head. This is expected under the proposed theory, since the nominal functional head is the projection that contains grammatical information. The CS-marking cannot apply to the category-less root, in that its role in the derivation is to provide the noun with encyclopedic/semantic information but cannot take part in any syntactic relation. So, what appeared to be a morpho-phonological issue is argued to be syntactic.

Previous studies have always maintained that Berber, regardless of its varieties, has a basic VSO order. In Chapter seven, I demonstrate that Tarifit has now shifted to a topic-prominent configurational system and that VSO is marginal. This can be seen from (4), where the subject is the topic. In (5), VSO is not completely grammatical but avoided by native speakers in favour of (4).

- | | | | | |
|-----|----------------------|----------------|---------|-----|
| (4) | Nunʒa | ð-zra | a-qzin. | SVO |
| | Nunʒa | 3F.SG-see.PERF | SG-dog | |
| | 'Nunja saw the dog.' | | | |
| | | | | |
| (5) | ? ð-zra | Nunʒa | a-qzin. | VSO |
| | 3F.SG-see.PERF | Nunʒa | SG-dog | |
| | 'Nunja saw the dog.' | | | |

In that chapter, however, I further show that the word order in Tarifit displays two additional properties which do not make it straightforward to

draw a conclusion about this issue. The first case can be seen from (6). The fact the object is realised as a clitic requires this pronoun together with verb to be in the initial position of the sentence. For instance, SVO is the preferred order when all arguments are lexical as in (4). By contrast, it is the verb together with the object pronoun that are required to be in the initial position when the internal argument is a clitic, as in (5):

- (6) δ -zri - θ Nun ζ a. V_[+OBJ-CL]S
 3F.SG-see.PERF 3M.SG.OBJ Nun ζ a
 ‘Nunja saw him.’

In my proposed analysis of this typology, I argue that the basic sentence in Tarifit requires the initial position to be filled with topic, on the basis of the fact that this Berber language is topic-prominent. This requirement is accomplished by the subject when all arguments are lexical, as in (5), and by the object clitic when the internal argument is a pronoun, as in (6). This argument rests on the fact that pronominal clitics are inherently topics. I further argue that the movement of the pronoun pied-pipes the verb with it and therefore predicting the surface ordering whereby the verb + object-clitic precede the lexical subject.

The verb-first requirement is found also with some embedded and wh-clauses, as in (7). In that sentence, it is the verb which is required to be in the initial position of the clause and not the verb. Evidence is provided which shows that alternations like these are the result of verb movement to C, unlike the marginal VSO which is simply a reflection of verb movement to T.

- (7) u ζ i n- i-zra u-m ζ sa. VS
 sheep COMP 3M.SG-see.PERF CS-shepherd
 ‘The sheep that the shepherd saw.’

The last part of my study of word order in Tarifit deals with the fact that the movement of the verb to C/verb second (V2) with wh- and embedded clauses does not apply across the board. That is, some of these clauses require verb-fronting, as seen in (7), whereas others do not have this requirement. I propose to deal with this issue using Chomsky’s (1993) copy theory of movement. More specifically, I argue that V2 in wh- and embedded clauses applies in the syntax regardless. For clauses which do not display this operation in the surface, This is due to a language-specific phonological constraint having to do with the prosodic form of the complementiser occupying C and is also dependent on whether C is overtly

filled or not. These PF constraints may trigger the pronunciation of the lower copy of the verb.

Clitic pronouns in Berber are generally assumed to follow the verb but obligatorily move to a functional category (complementiser, negation or tense/aspect) above the verb. Chapter eight takes the study of clitics a step further by investigating other adverbial clitics (directive clitic, locative clitics and preposition clitics). The fact that clitics move to a position preceding the verb when a functional category is present can be seen from (8). In that sentence, the clitic precedes the verb due to the presence of the future morpheme.

- (8) aǝ- -θn i-zar.
 FUT. 3M.SG.OBJ 3M.SG-see
 ‘He will see them.’

However, this property does not apply to other similar sentences as can be seen from (9). That sentence involves a tense/aspect morpheme selecting the verb yet, the clitic object still follows the verb. This behavior contradicts the general claim found in the Berber linguistic literature by assuming that the clitics obligatorily move to a functional category.

- (9) ataf i-zari -θn.
 FUT.IMPERF 3M.SG-see 3M.SG.OBJ
 ‘He will be seeing them.’

Based on the fact that clitics in Tarifit are required to be adjacent to the verb (before or after it), it is argued that these are base generated within the VP then left-adjoined to the verb in the syntax for licensing purposes. The clitics then may be hosted by a phonological element to the left, which motivates the pronunciation of the higher copy, as seen in (8). When the clitic follows the main verb, this is due to the pronunciation of the lower copy of the clitic. This scenario is found in two cases: (1) in verb-initial sentences, and (2) in cases where some phonological elements to the left of the clitic may be prosodically weak to host the clitics or these elements are not part of the intonational phrase that contains the clitics and the verb. The latter case is represented by the construction in (9). In both scenarios, the clitics remain stranded in the initial position with no eligible host to the left, which motivates the pronunciation of the lower copy.

In an earlier version which was part of my PhD dissertation, it was observed in chapter nine investigating the system of valency that almost all transitive-

agentive verbs resist passivization in Tarifit. Some verbs cannot be passivized like the one used in (10) but other transitive verbs may either take a middle passive, as in (11), or an inchoative form, as in (12). The intransitive forms in (11b) and (12b) is away for these verbs to realize their passive. However, the middle and inchoative forms in these sentences cannot be equated with their transitive counterparts in that they both lack an agentive meaning. In the PhD version, the study focused mainly on the DM framework relative to the alternation between transitivity and intransitivity and how many properties that are generally argued to be lexical are in fact syntactic dependent on the syntactic context. However, the question of why transitive verbs resist the passive was not addressed.

- (10) ufi-n a-qzin.
 find.PERF-3.M.PL SG-dog
 ‘They found a dog.’
- (11) a. i-z-nz ð-amur-θ ins.
 3.M.SG-CAUS-sell.PERF. F-SG-land-F his/her
 ‘He sold his land.’
- b. ð-amur-θ ins ð-m-nz.
 F-SG-land-F his/her 3.F.SG-MID.VOICE-sell.PERF.
 ‘His house got sold.’
- (12) a. a-frux -in i-hwr ymma-s.
 SG-boy DEM 3.M.SG-bother.PERF mother-3.SG.POSS
 ‘That boy bothered his mother.’
- b. ymma-s ð-n-hwr.
 mother-3.SG.POSS 3. F.SG-INCH-bother.PERF
 ‘His mother became bothered.’

The current study of transitivity in chapter nine aims to do just that. I propose a theoretical treatment for the question as to why transitive verbs resist passivization. I adopt Pyllkkänen’s (2002, 2008) parameter-setting, according to which some languages have Cause and Voice as separate projections (Voice-splitting languages) whereas others have these projections bundled/embedded under a single syntactic node (Voice-bundling languages). This chapter provides support for this theory through the analysis of Tarifit data. Transitive verbs resisting passivization are captured straightforwardly if Tarifit is taken to be Voice-bundling language. This parameter disallows this operation in that readjusting Voice (from

active to passive) affects the causative since these two syntactic features are fused under the same syntactic node.

Two additional pieces of evidence are discussed in the literature in support of this theory, both of which receive support from Tarifit. The first one has to do with intransitive-unaccusative verbs like the one in (13):

- (13) a-riθi i-gg^{wa}.
 SG-dough 3M.SG-knead.PERF
 ‘The dough is kneaded.’

I show that voice-splitting languages like Japanese allow the causative morpheme to co-occur with this set of verbs, in that this morpheme refers to a causing event but does not necessarily correlate with an agent which is introduced separately by Voice. By contrast, a voice-bundling language like Tarifit does not allow this morpheme to co-occur with these verbs as in (14). This prediction is borne out in that the causative morpheme encodes both Voice and Cause.

- (14) *a-riθi i-s-gg^{wa}.
 SG-dough 3M.SG-CAUS-knead.PERF

The second piece of evidence has to do with unergative verbs. For instance, Pylkkänen (2008) shows that some languages like Japanese can transitivize unergative verbs like ‘cry’ (‘John cried the child’) whereas English does not have this option. According to her, this parametric variation can be accounted for if Japanese is assumed to be a Voice-splitting language where Voice and Cause are separate projections, but English is Voice-bundling. According to this hypothesis, Japanese may transitivize unergative verbs since Cause (i.e. causing event) would project independently below Voice that the latter projection is responsible for introducing an agent-causer. However, English does not have this option since the functional projection selecting the lexical verb involves both Cause and Voice. I provide evidence in support of this hypothesis from Tarifit. Unergative verbs in this language are formed by combining the causative morpheme with a lexical root. Like English, this set of verbs cannot be transitivized, as in (15b). So, this behavior is predicted if Tarifit is a Voice-bundling language.

- (15) a. a-frux i-s-kuj.
 SG-boy 3M.SG-CAUS-cry.PERF
 ‘The boy cried.’

- b. *Nunʒa ɔ̌-s-s-kuj a-frux.
Nunʒa 3F.SG-CAUS-CAUS-cry.PERF SG-boy
'Nunʒa cried the boy.'

Furthermore, the chapter sheds light on some verbal properties having to do with transitivity alternation. Under a lexicalist approach to verbs that alternate between transitive – causative and intransitive, the intransitive form is generally assumed to be derived from its transitive counterpart by suppressing the causer in the lexical semantic representation (Levin and Rappaport 1995). I show that this approach is problematic for Tarifit in that transitive and intransitive morphemes are in complementary distribution, which makes it difficult to argue for one verbal form as derived from another. I show how a syntactic approach like DM predicts this typology if these verbal properties are assumed to be syntactically derived.

THE LANGUAGE AND ITS SPEAKER

1.1 Introduction

The main objective of this chapter is to familiarise the reader who has little or no prior knowledge of Berber with some general background information on the history and sociolinguistics of this language.

Although Berber still has a large speaking population, it has never been codified with a standard grammar and a written form. This is one of the drawbacks that has prevented Berber from being promoted as an official language in any country where it is used. The existence of Berber as an oral language implies that native speakers cannot receive any form of education in their own language. Like many other spoken languages around the world, the stigmatised view of being a ‘dialect’ and not a ‘proper language’ has made Berber quite vulnerable. The impact of these social prejudices can be quite devastating, where the importance of speaking other languages outweighs the benefits of speaking Berber. At least in Morocco, for instance, prestige is generally associated with written languages that are formally taught in schools and these are Standard Arabic (SA) and French.

Due to the geographical dispersion of its speakers that are scattered in the North African countries, the evolution of the language within these areas both in isolation and through its interaction with other languages used have contributed to the evolvement of different varieties that are not necessarily mutually intelligible. Despite some differences, which are mainly phonological though sometimes lexical, Berberists generally argue for a structural unity of a single language. However, I show that these similarities are now decreasing.

This chapter is organised as follows. Section 2.2 provides a brief history of the language. Section 2.3 discusses some sociolinguistic background. Section 2.4 focuses on the linguistic situation in Morocco and the existence of Berber in a multilingual environment. Section 2.5 discusses the Berber varieties spoken in Morocco. Section 2.6 examines Tarifit and its sub-

varieties. Section 2.7 sheds more light on some dialect differences. Section 2.8 concludes.

1.2 Historical overview

The existence of Berbers in North Africa dates to some 5000 years ago (Boukous 1995b among others). Other studies in anthropology document Berbers to have lived in the area with records dating back to some 10000 years (Ilahian 2006). Note that ‘Berber’ is used as a generic term to refer to these related languages spoken in the area, so Berber was never codified as a unified language. Due to its oral tradition, it appears that history never favoured Berber as a language which always found itself in desperately embattled situations against the official languages in these countries.

Berber speakers are found in scattered locations across North Africa, as can be seen from the map (1) below¹. Historically, the area which is inhabited by the Berber speaking population starts from the oasis of Siwa (Egypt) in the east and extends westward to the Canary Islands (Spain) off the Atlantic coast and from the Mediterranean Sea in the north to the sub-Saharan countries in the south. However, most speakers are found in isolated mountainous areas in Morocco and Algeria. A considerable number consisting mainly of Tuaregs are also found in Sub-Saharan Africa in countries such as Niger, Mali, Mauritania, and Burkina Faso. Other pockets of speakers are also found in Tunisia, Libya, and the oasis of Siwa in the eastern part of Egypt, but no speakers are reported in the Canary Islands.

The geographical dispersion of these speakers and the presence of political borders have led to the evolution of Berber into separate languages in that they are not mutually intelligible. While the language is generally known in the Western linguistic tradition as ‘Berber’, which is of Greek origins, another common term used in the broad Berber tradition to refer to this language group is ‘Tamazight’. Although the lexical root ‘mazigh’ appears to be a native cognate, it is not clear what this term means in that it does not occur elsewhere in the vocabulary of this language group². Note that the term is also used as the name of another Berber dialect spoken in the Middle Atlas area in Morocco.

¹ The map is adopted from Encyclopaedia Britannica.

² Recently, the term *amazigh* ‘Berber person’ is claimed by the cultural and linguistic Berber movement to mean ‘free man’. The meaning appears to be based on some hypothesis, which attempted to trace the etymology of the word by looking at some words that have similar form in Tuareg.

With respect to the number of Berber languages and varieties, there are no accurate statistics. Abdelmasih (1968) and some other unofficial sources (Wikipedia-online) claim that there are as many as 300-500. However, it is not clear how these statistics are obtained and should therefore be received with caution. For instance, it is not clear whether these claims make any distinction between mutually intelligible varieties and the ones that are not. As for the number of its speakers, there are no reliable and accurate statistics. According to Ennaji (1999), Berber speakers in Morocco make up to 40% out of an approximate population of 30 million while an approximate 8.5 million speakers are found in Algeria. These are just approximate estimates though and Berber scholars often cast doubts on the reliability of such statistics, since this linguistic issue was never part of any official census at least in Morocco (Errihani 2006, Ilahian 2006). From an anthropological perspective, Ilahian argues that between 80% and 90% of the population is of Berber origins but a large part of this population has been Arabicized and therefore lost its linguistic and ethnic identity.

Berber's linguistic affiliation is classified as Afroasiatic together with Chadic, Cushitic, Egyptian, Omotic and Semitic. It should be noted that Berber's genetic affiliation forms its own subfamily in that it is directly derived from Afroasiatic. By contrast, languages like Arabic and Hebrew for instance are assumed to be derived as 'Semitic' then split at some stage in history becoming two different languages. As Achab (2012) points out, this classification was not based on any clear historic and linguistic evidence which showed that these languages were indeed derived from a would be proto-language called 'Afroasiatic', but it was only an assumption made based on some linguistic similarities that these languages share. The term 'Afroasiatic' was first introduced by Greenberg (1950) as an alternative to 'Hamito/Shamito-Semitic', which is still used to describe this language group. This term was used by early European Orientalists but dismissed by Greenberg as having no linguistic basis, in that it refers to a biblical mythology which claims that Ham and Shem were supposedly sons of Noah. According to him, this kinship relation had been taken to reflect some linguistic unity of this language group. Alternatively, 'Afroasiatic' is used to refer to the geographical area where these languages are spoken; part of Africa (Afro) and part of Asia (Asiatic). Whether the linguistic similarities from which the term is borne out indeed reflect a common source at some stage in history or are the result of language contact remains an open question.

1.3 Some sociolinguistic background

One of the main problems that Berber has always faced is the stigmatised view of being a ‘dialect’ and not a ‘proper language’ since it is used as a spoken language only. The debate as to what constitutes a ‘dialect’ and a ‘language’ is not new. There are two different definitions, which stem from two different and conflicting views of language. The first definition, which is often assumed by non-linguists, makes the distinction between ‘language’ and ‘dialect’. According to this view, what is perceived as a ‘proper language’ is the one which usually has a standard grammar and a written form. This is generally the language of the speakers that hold the economic and political power. So, the present view defines language using social rather than linguistic criteria and these are often charged with biases and prejudices. Accordingly, ‘dialects’ are often perceived as less sophisticated and therefore downgraded to a lower scale in their social prestige. This indeed explains that until recently, Berber was largely a taboo subject in most north african countries where it is spoken. Opposing this view is another definition assumed by linguists, which argues that ‘language’ is simply the super-ordinate term for a collection of ‘dialects’. This definition does not consider ‘language’ versus ‘dialect’ as relevant, in that it makes the claim that any natural human communication system fully complies with the definition of language. Like many spoken languages, Berber has often been defined along non-linguistic lines and therefore viewed as a spoken ‘dialect’ and not a ‘proper language’. Following standard practice in linguistics, I will keep using the term ‘dialect’ in the sense of a variety of the same language.

1.4 The linguistic situation in Morocco

Because Tarifit is spoken in Morocco, this section discusses some relevant sociolinguistic aspects in that country. The linguistic situation in Morocco is quite complex and interesting due to the presence a few languages. There are generally four languages used which may be divided into two categories. On the one hand, there is a category that is ‘official’ used in formal situations such as education and media represented by Standard Arabic (SA) and French. On the other hand, there is another category which is seen more like a ‘dialect’ in that it belongs to an oral tradition used for everyday life represented by Moroccan Arabic (MA) and Berber. Ironically, this sociolinguistic situation shows that what are considered as ‘dialects’ (Berber and MA) are the only natively spoken languages in Morocco. Conversely, the so-called ‘languages’ (SA and French) are not the native languages of any Moroccan but are only formally learned, typically as second languages. In

this sense, it is reasonable to say that SA and French are the standard languages whereas MA and Berber are seen more like local or indigenous languages. Consequently, this linguistic diversity has given rise to a sociolinguistic hierarchy between all the languages used; this is discussed next.

SA is the undisputed official language of the country and used mainly in education, media, and religion. The language was first introduced in Morocco between the seventh and eighth century when North Africa became part of the Arab-Muslim empire. Since the majority of Moroccans are Muslims, regardless of their linguistic background, the importance of SA is due to this religious reason being considered as the language of Divine Revelation. This view which is also politically motivated is so dominant that its validity has become difficult to question even among Berber speakers, many of whom see themselves as Arabs due to an acculturation that has occurred over a lengthy time span. In his suggestively titled chapter 'The Arabic Language Unites Us', Suleiman (2003: Chapter 4) discusses at length this perception which is fairly common across the Arab World. Adding to the importance of SA is the strong Arabicization that was carried out in various sectors in the 1960s, following the independence of Morocco, whose main purpose was to restore Morocco's Arab-Muslim identity (Sadiqi 2006). This gave more legitimacy to SA at the expense of Berber. One of the socio-linguistic factors that play some role in this is that linguistic unity, represented by SA, is equated with national unity. Such a social attitude neither advances the cause of linguistic diversity nor does it help to maintain the survival of Berber as a language.

French comes second in this sociolinguistic ranking in that it is used in education, trade and as a language of communication with the outside (non-Arab speaking) world. This language was introduced in Morocco when the country became a French protectorate in (1912). French still holds high prestige and is commonly spoken by the educated middle class in the main urban centres. It is worth noting that French in many ways is more than a second language in that it is introduced as one of the main subjects in primary school. Until recently, part of the curriculum (mainly, scientific subjects) were taught in French and this method is still maintained at the university level. The importance of French also comes from the fact that Morocco is a member of *La Francophonie*, which is an international organisation representing French speaking countries. This organisation which promotes the French language and culture consists mainly of countries that were colonised by France. The status of French as a prestigious language is found in the areas of education, business, and trade.

After SA and French comes MA which is the lingua-franca in Morocco. MA is often associated with the mainstream but is considered as reflecting the national identity of Moroccans. Boukous (1995b) and (Ennaji 1999) also note an emerging middle ground variety between MA and Standard Arabic used mainly by the educated class. Although MA is seen as a deviation from Standard Arabic, as is generally the case in many Arab speaking countries (Marley 2004), it has adopted many Berber linguistic features "...to the extent that Middle East Arabic speakers can hardly communicate with Moroccans unless they resort to the classical variety of Arabic ... Moroccan Arabic is phonologically and morphologically more distant from Classical Arabic or the Middle East colloquial varieties than it is from Berber" (Chtatou 1997: 101).

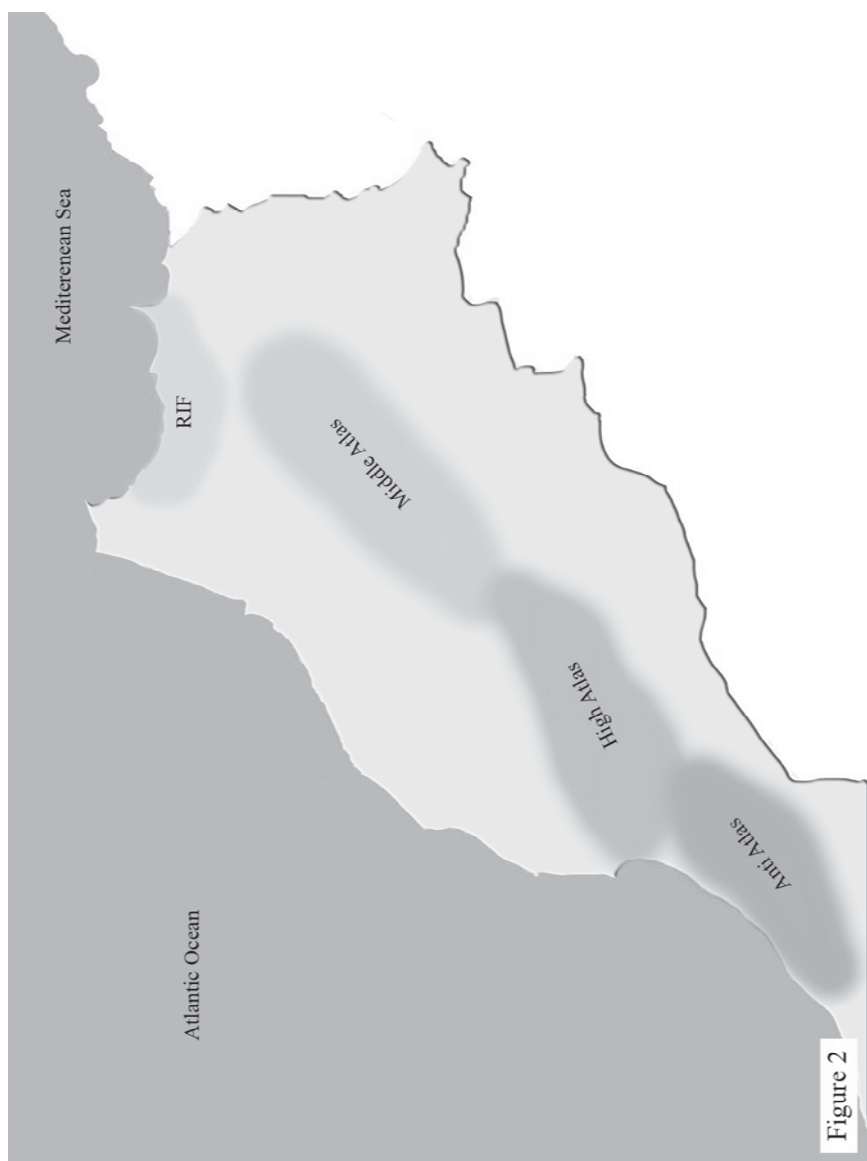
Berber comes last in this scale in that it is seen as serving no real purpose except for the fact that it happens to be a system of communication used by some parts of the population. Until recently, Berber was a taboo subject associated with social division. Marley (2004) conducted some field work in an Arabic speaking area, in the city of Khouribga (Morocco), where she shows that the majority of speakers holds a fairly negative attitude towards Berber and is seen as "... potentially detrimental to the acquisition of Arabic" (Marley 2004: 43). Her subjects, however, still recognise that Berber is part of the cultural heritage of the country. This sociolinguistic situation associates Berber with ethnic or tribal rather than national identity like many other indigenous languages throughout the world. This is major problem that Berber has always faced, in the sense that it does not have a standard status so there is no language called 'Standard Berber'. In view of this, Berber speakers cannot receive any form of education in their own native tongue which may have an impact on their school performance. Such sociolinguistic environment usually puts the speakers of the so-called 'dialects' in a disadvantaged situation. These misconceptions have devastating linguistic effects. They lead to lexical borrowing by abandoning native words and by avoiding the use of Berber due to its low sociolinguistic status as a non-standard language. For instance, borrowing and code-switching using Arabic words/expressions are common among Berber speakers. This often motivates some other grammatical changes including the decline of the morphological system and the disappearance of structural complexity. Berber manifests a number of these changes which are often argued to be among the properties of endangered languages (Hale 1991). Although Berber may not be endangered, due to its large speaking population, these factors make it vulnerable though. This negative attitude which has affected Berber for a long time is now changing. Berber was recognised in the recent new constitution (2011) as one of Morocco's official languages and was

also introduced in schools³. However, there is an ongoing debate regarding the challenges faced by the implementation of this language policy. Tifinagh alphabets, Phoenician in origin, are adopted as the official writing system of the language. These scripts which were used in Old Libyan Berber in pre-Roman times surprisingly survived and maintained by some Tuareg communities in Sub-Saharan Africa (Dalby 2004).

1.5 The Berber languages spoken in Morocco

There are three main Berber languages spoken in Morocco and are generally distributed according to some geographical organisation, as can be seen from Map (2) below. Tarifit is spoken in the Rif area in the northern part of the country, Tamazight in the Middle Atlas and Tashelhit in the High Atlas and the Anti-Atlas region in the south. Berber speakers are also found in major cities (Boukous, 1995a), due to the exodus from the rural areas in search for education and work opportunities. Like many other Berber languages, the ones spoken in Morocco also are different from each to the extent that they are not mutually intelligible. Hart's (1976) anthropological study provides a historical perspective regarding the emergence of this linguistic split. According to him, Tarifit diverged from Tamazight of the Middle Atlas approximately 1000 years ago whereas Tamazight and Tashelhit diverged 2000 years ago. This would explain the fact that Tarifit, for instance, is closer to Tamazight than it is to Tashelhit given the geographical continuum between the Rif Mountain range and the Middle Atlas range (see the map below).

³ Note that Tamasheq spoken by the Tuaregs was also recognised as a regional national language in Mali and Niger (Dalby 2004, Ilahian 2006).



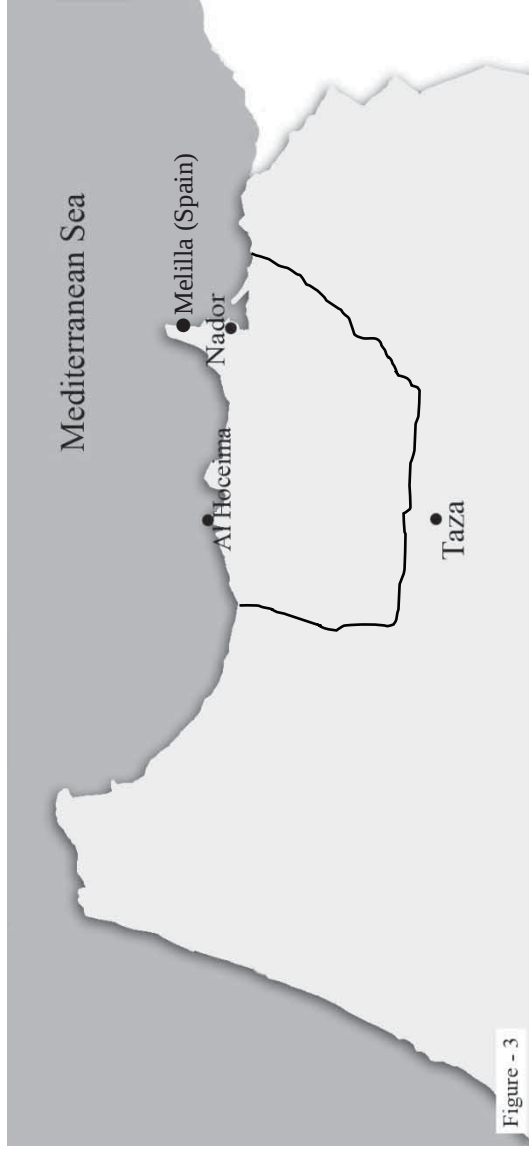
MAP (2): BERBER SPEAKING AREAS IN MOROCCO

1.5.1 Tarifit Berber

The Berber language investigated here is mainly spoken in the central and the eastern part of the Rif area, as can be seen from Map (3) below. The speaking population of Tarifit is found inside the marked borderline in the map between the cities of Al Hoceima and Nador, covering an area of approximately 200 kilometres east-west. The city of Melilla, which is part of Spain, is also included in this borderline. The speaking population of Tarifit extends southward to an area just before the city of Taza, with an approximate distance of 100 kilometres north south. This variety is known as Tarifit named after the Rif area. The name itself is not native to the language but appears to originate from the Arabic cognate *riif* ‘rural area’. Some other Berber languages seem to have also acquired their names from Arabic, including Taqbaylit spoken in Algeria whose root is originated from the Arabic *qabiila* ‘tribe’. As for the number of Tarifit speakers, unofficial statistics vary between 2.5 and 3 million and another 1 million are immigrants found in different Western European countries. As pointed out earlier, these are just approximations in that there has never been any official census in Morocco that considered the linguistic identity of the population to support the accuracy of these statistics. Local people speak Tarifit as their first language in their everyday life. However, MA may be used as a lingua-franca with someone who does not originate from the area and does not speak Tarifit. This is usually the case in work-place situations especially in government offices.

Tarifit consists of a few sub-dialects whose differences are generally phonological/phonetic but can also be lexical. For a detailed study of these sub-dialects such as phonetic/phonological differences and their geographical distribution, see Lafkioui (2017)⁴. However, these dialects spoken in the Rif area are mutually intelligible so, it makes perfect sense to group them under the super-ordinate term ‘Tarifit’ following standard practice in the classification of Berber languages.

⁴ Lafkioui (2017: 6917) identifies 32 dialects with an illustrative map of all these Tarifit varieties.



MAP 3: LINGUISTIC MAP OF THE RIF AREA

The exact variety investigated in this book is Aith-Wayagher Tarifit spoken in the Beni Bouyach district, 21 kilometres south of the city of Al Hoceima. Aith-Wayagher is the largest tribe in the area according to Hart (1976). The linguistic relevance of this book comes from the fact that Tarifit is one of the less studied Berber languages. The data used are mainly based on the author's knowledge of the language as a native speaker, but data was checked with other native speakers as needed. Other basic socio-linguistic information discussed in the chapter is also based on the author's knowledge of the area where he was born and raised.

1.6 Some differences

In this section, I discuss some basic differences which set Tarifit apart from other Berber languages. Tarifit is likely to be the most innovative Berber language due to several linguistic peculiarities it has developed. These are mainly phonological but may also be syntactic.

1.6.1 Syntactic change

Although Berber languages differ in many ways, which explains the fact that they are not mutually intelligible, one of the main arguments often used by Berber linguistic scholars to justify the unity of these languages is the word order. The major studied Berber languages are assumed to have a basic VSO order⁵. Cadi (1981), who worked on Ayt-Sidar Tarifit spoken in the east of the Rif area, looked for empirical evidence to justify this claim based on a corpus of 1098 participants. His field work showed that 78% of his subjects preferred VSO over SVO. Unlike Ayt-Sidar, I show in chapter six that Aith-Wayagher Tarifit has now developed a topic-prominent configurational system with VSO becoming increasingly marginal. It must be pointed out though that although Cadi's statistics were used to support the claim that Tarifit is VSO, his results still showed evidence of a syntactic shift in that close to a quarter of his subjects favoured SVO. But it was not clear from his study whether the subject in SVO is the grammatical subject or the topic, considering that the subject with this order is generally considered to be the topic.

⁵ According to Cadi (1997), referring to Galland (1985a), Tuareg has apparently shifted to a SVO order.

- (3) a. a-nwar
SG-tent
'Tent.'
- b. ǝ-a-nwar-θ =/ǝanwaʃ/.
F-SG-tent-F
'Tent/make-shift room.'

1.6.2.2 *The vocalisation of [r]*

The vocalisation of [r] generally occurs when this consonant follows a vowel, like many English varieties. The *r*-dropping following a consonant may be lexical. For instance, the negative morpheme in the major studied languages is realised as *ur*. In Tarifit, however, this morpheme is realised as *u*. In many other cases, this process may be phonologically predictable. In (4a), the appearance of the highlighted [r] is due to presence of the transitional schwa following the relevant consonant when the verb is in the imperfective form. When the same verb is in the perfective form, as in (4b), the [r] gets deleted with disappearance of the schwa. A similar process was reported by Dell and Tangi (1993) from Ayt-Sidar Tarifit spoken in the east of the Rif.

- (4) a. i-farən imndi.
3M.SG-clean.IMPERF barley
'He is cleaning barley.'
- b. i-fan imndi.
3M.SG-clean.PERF barley
'He cleaned barley.'

The vocalisation of [r] in some other cases triggers vowel-lengthening. This can be seen from the highlighted vowels in (5a&b) which are cognate with [r] in other Berber languages.

- (5) a. i-ɣaa attas.
3M.SG-study.PERF_a lot
'He studied a lot.'
- b. ɣii-n attas.
study.PERF-3M.PL a lot
'They studied a lot.'

The process of lengthening in some other cases leads to the emergence of diphthongs, as in (6)-(7). The highlighted vowels in these two sentences are

cognate with [r] in other Berber languages. In Tarifit, these are produced together with the adjacent vowel forming a diphthong. This observation was also made by Tangi (1991) and Dell and Tangi (1992). The first vowel in a sequence of two vowels in Berber generally becomes a glide in view of the constraint on vowel hiatus. However, this principle does not apply to the sequences [ia] and [ua] in (6)-(7) simply because they are treated as a single consonant, i.e. a diphthong, like English.

- (6) hari-n imndi gi- ð-sia-θ.
grind.IMPERF-3M.PL barley in F-mill-F_{CS}
'They are grinding barley in the mill.'

- (7) ð-uasra ð-çsi ð-jazit.
F-hyena take.PERF F-hen-F
'The hyena took a hen.'

1.6.2.3 *The Rhoticisation of [l]*

Another consonant which appears to have been lost in Tarifit but is still found in other Berber languages is the lateral [l]. This has now been rhotacized and subsequently replaced by [r]. For instance, the highlighted tense *la* used in Tamazight (Ouali 2011:48) in (9) is realised as *ra* in Tarifit, as in (10). Note that Tamazight (and other major studied Berber languages) has [r] as a separate sound in addition to [l], as can be seen from the object of the sentence in (9). When the same element is used as the main verb (equivalent to the copula 'be' in English) in the perfective form, which is realised through gemination as in (11), the geminated [rr] becomes the voiced-affricate [dʒ]. It is important to note though that [l] has now been re-introduced due to lexical borrowing mainly, with proper nouns that are borrowed from Arabic or from other European languages. However, [l] is not found with native roots in Tarifit.

- (8) la-tətx ayrum. (Tamazight)
la-eat.1s.IMP bread
'I am eating bread (now).'

- (9) (a)ra tət-ɾ a-ɾrum. (Tarifit)
PST.IMPERF eat.IMPERF SG-bread
'I was eating bread.'

- (10) i-rra /idʒa/ ʃi (n) u-ɣrum gi- ssuq. (Tarifit)
 3.M.SG-be.PERF some of CS-bread in F-market
 'There is some bread in the market.'

1.7 Conclusion

In this chapter, I discussed some general background information on Berber with particular focus on Tarifit. The dispersion of this language group across North Africa has given rise to a natural evolution of Berber into different languages. This evolution has also led to some linguistic variations within the same language group.

The status of Berber as an oral language with limited importance has made it quite vulnerable against the presence of other 'official' written languages. In view of this, borrowing is common, which interferes with the grammatical system of Berber. Furthermore, native speakers of Berber are put in a disadvantaged situation in that they never get the chance to receive education in their own native tongue.

THE FRAMEWORK

2.1 Introduction

Theories of Generative grammar, especially those working within the Chomskyan tradition have maintained that knowledge of language includes a lexicon from which elements are drawn into the computational system (syntax) yielding a phonetically interpretable representation and a semantically interpretable representation. The optimal representation of the lexicon consists of words which are specified for grammatical, phonological, and semantic features. These basic idiosyncratic properties serve as the input for the computation to build larger strings in the form phrases and sentences using rules made available by UG (Chomsky 1981, 1993, 1995).

Recent works within the Minimalist Program and more specifically Distributed Morphology (DM) (Halle and Marantz 1993; 1994, Halle 1997, Marantz 1997 among others) have challenged this view of the lexicon and argue for an alternative proposal whereby words have no inherent pre-specified grammatical properties as originally thought, but are instead composed of category-less/neutral roots which combine with functional elements in the syntax creating nouns, verbs, etc. The present argument ultimately amounts to the claim that syntax operates both below and above the word level. Lexical items and syntactic features (i.e. functional morphemes) are devoid of any phonological or semantic features but these enter the derivation post-syntactically. This view of grammar has given rise to new terminology; the former view which argues in favour of a generative lexicon whereby words are fully specified for their syntactic, phonological, and semantic features, is now known as the Lexicalist hypothesis. The latter view, on the other hand, argues that only those features required by the syntax, namely formal syntactic features, and not phonological or real-world semantic features, are present in the computation.

This chapter illustrates some of DM's key proposals with analyses of mainly Tarifit data and aims to demonstrate how Tarifit data (or Berber more broadly) are extremely amenable to analysis within this theoretical framework in that

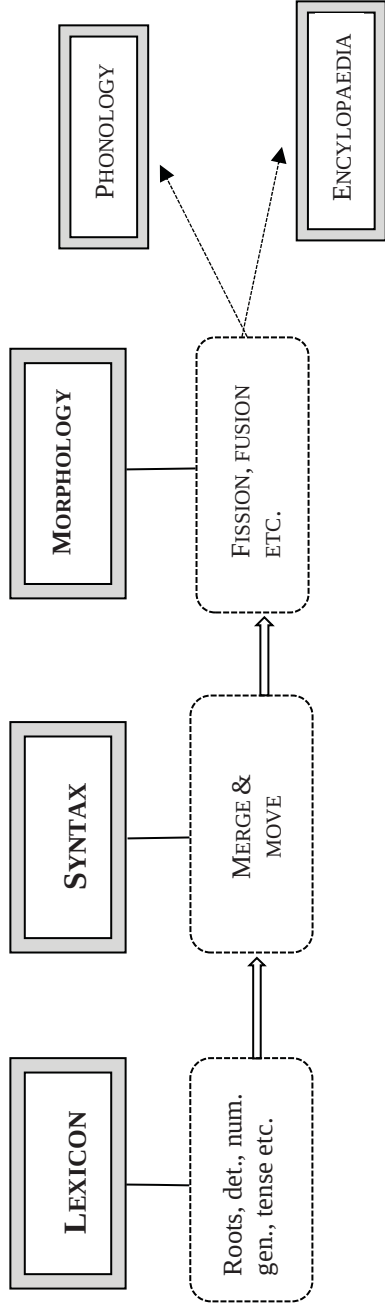
many key proposals of DM are seemingly tailor-made to accommodate important properties of the Berber morphosyntax. The main tenets of the theory impact on the architecture of grammar as commonly known within the Minimalist framework at its fundamental level. This chapter looks at these tenets relative to the interaction between different grammatical components as assumed by DM.

2.2 The architecture of Distributed Morphology

The diagram below is based on the widely adopted view of the architecture of DM (Halle and Marantz 1994, Marantz 1997, Harley and Noyer 1999 among others). As can be seen from the diagram, the main claim of DM is that the architecture of the language faculty is strictly modular in the sense that many features (syntactic, phonological and semantics) which were assumed to be present in the lexicon are accessed at various levels of representation.

2.2.1 The Narrow Lexicon

There is no lexicon in the traditional sense where lexical items are specified for their grammatical, phonological, and semantic features but these features are accessed at different levels of representation. The lexicon in DM consists of bundles of morpho-syntactic features and category-less roots both of which have an abstract representation but no phonological content (Halle and Marantz 1993; 1994, Marantz 1997). Lexical roots and the bundles of morpho-syntactic features are also referred to as l-morphemes and m-morphemes, respectively (Harley and Noyer 1999). It is these building blocks that serve as the input for the syntax to generate words and sentences using rules made available by UG.



With respect to the morpho-syntactic features, these are the projections occupying the terminal node of functional categories. These features may include number, gender, case etc. which are part of the nominal category. Others such as tense, aspect, participle, agreement etc. are part of the verbal category. The presence or absence of these features may vary among languages. For instance, gender in Berber is marked for feminine only whereas masculine is the default unmarked form. By contrast, English has no gender feature assigned to nouns.

For lexical items, these are abstract roots with no grammatical information or fixed meaning. These elements become words when they occur next to a functional terminal node in the syntax occupied by a morpho-syntactic feature. An observation having to do with the semantic implications of these roots is of note. Early works in DM considered lexical roots to be devoid of any grammatical, phonological, or semantic information (Halle and Marantz 1994, Marantz 1997). Subsequent developments within the theory have shifted from this view and decided to assign a basic conceptual meaning to these roots in the narrow lexicon, following a proposal originally put forward by Pfau (2000). Pfau conducted an empirical study using an experiment that looked at speech errors (i.e. slips) produced by native speakers and showed that these spontaneous errors/slips are semantically related. For instance, Pfau demonstrates that speakers may produce ‘eraser’ instead of ‘whiteboard’, ‘door’ instead of ‘window’ etc. which is evidence that the semantically motivated slips trigger syntactic accommodation. This in turn suggests that these slips happen prior to the syntax and the semantic information must therefore be associated with these roots in the narrow lexicon. The question as to whether lexical roots contain any semantic information is not new and was raised earlier by Marantz (1995). The view that roots are associated with a basic semantic concept is now widely accepted in DM. It must be pointed out though that this information is not relevant to the computation but is needed during the choice of vocabulary for roots, as will be shown in section 1.2.4.

2.2.2 The Syntax

Since the lexicon consists of category-neutral roots and arrays of morpho-syntactic features, these serve as the input for syntax to build larger strings in the form of words and sentences using Merge and Move. Under a Lexicalist approach, open class lexical items are non-decomposable lexical entities occupying terminal nodes in the syntax. By contrast, these items in DM have a complex structure which consists of at least two projections: a lexical root and a category-defining head represented by the morpho-

syntactic feature. The representation in (1) illustrates the minimal structure of a basic noun. The *n*-head has the function of categorising the lexical root as a noun.

- (1) $[[\sqrt{\text{cat}}] n]$.

The present claim implies that the rules of syntax apply above and below the word level, in the sense that words like sentences are subject to syntactic principles. Marantz (1997) argues that there is no syntactic node corresponding to the notion of ‘word’ in that words have a complex structure construed by the syntax all the way down. Note that the functional head which spells out the categorial status of the lexical root can be any feature provided that the feature belongs to that category. As I show below and in the next chapter, the only morphological information available to Berber nouns are number and gender. In this case, these are arguably responsible for spelling out the lexical root as a noun. By contrast, English has number, determiners and other morphemes that are traditionally classified as derivational belonging to the nominal category. These all encode the nominal feature and should therefore occupy the *n*-node. Thus, it makes no sense in this framework to talk about inflectional versus derivational morphology in that the whole morphological component is assumed to be syntactically derived.

One of the grammatical properties of Berber that justifies the deployment of a syntax-based approach to word formation has to do with the representation of open class lexical roots. By virtue of the fact that parts of speech in Berber consists of nominal and verbal categories, as will be shown in the next chapter on parts of speech, the basic lexical root is so flexible that it can take part in any of the two categories similar to cases of zero derivation in English. The observation that lexical roots in Berber may be used as nouns or verbs was pointed out earlier by Guerssel (1986). The data in (2) are some of the examples discussed by Guerssel which illustrate the ambiguity of open class lexical roots between nouns and verbs. This flexibility is mainly due to the fact that Berber has no adjectives as an independent word class but this concept is expressed by a noun in the attributive case or by a stative verb in the predicative case (Guerssel 1986, Ouhalla 1988).

- | | | | |
|---|---------|---|--------|
| a. $\sqrt{\text{fsus}}$ | 'light' | e. $\sqrt{\text{səh}}$ | 'fat' |
| b. $\sqrt{\text{m}^{\text{h}}\text{kar}}$ | 'big' | f. $\sqrt{\text{sm}^{\text{h}}\text{əð}}$ | 'cold' |
| c. $\sqrt{\text{qqəs}}$ | 'sour' | g. $\sqrt{\text{wssar}}$ | 'old' |
| d. $\sqrt{\text{r}^{\text{h}}\text{iw}}$ | 'wide' | h. $\sqrt{\text{zyar}}$ | 'tall' |

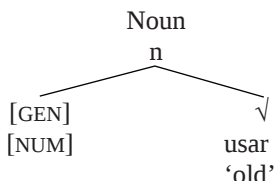
The alternation of the same base root between a noun and a verb can be seen from the data, in (3)-(4), using the root in (2g). In (3), the lexical root is used as a noun in that it inflects for number and is the object of the verb. In (4), the same root can equally be used as a (stative) verb in that it inflects, like any other verbs, for tense/aspect and subject agreement. Furthermore, there is no evidence which suggests that one category is derived from the other. Also important is that the alternation of open class lexical roots between nouns and verbs occurs on a large scale.

- (3) ḏ-zra a-wsar.
3.F.SG-see.PERF SG-old
'She saw the old man.'
- (4) aba-s i-wsar duniθ.
father-his 3.M.SG-old.PERF a lot
'His father is very old.'

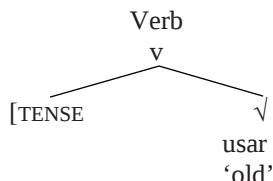
Since lexical items must be specified at least for their grammatical category under a lexicalist approach (i.e. generative lexicon), the ambiguity of roots between nouns and verbs in Berber may be problematic, such that they would have to be listed both as nouns and verbs leading to multiple redundancies of the same base-root, and would therefore motivate an unnecessary overload of computational storage in the lexicon. Conversely, DM would not face the redundancy problem. On the assumption that the derivation of words starts in the syntax, the category-neutral root is interpreted as a noun when inserted next to a nominal functional projection, as in (5a), and as a verb when inserted next to a verbal functional projection, as in (5b). Under this approach, it can be argued that a syntactically derived approach to the formation of words provides an elegant non-redundant theory of Berber roots in that it eliminates even those rules replacing them with independently necessary syntactic Merge, as the structures below illustrate.

(5)

a.



b.



2.2.3 Morphology

This component plays a mediating role between the syntax and phonology and is the point of the derivation where the syntactic output is manipulated on its way to vocabulary insertion (phonology). Noyer (1997) discusses at length several morphological processes from a wide range of languages, including Tamazight Berber. According to him, these processes are the result of Morphology interpreting the syntactic output. As a main point of reference, the underlying syntactic representation has a one-to-one relationship between the feature and its terminal node. Basic derivations like these may also survive in the surface representation. So, the [PLURAL] feature in English has a single representation which is spelt out in phonology by a single vocabulary item, as in (6):

(6) [PLURAL] ↔ /-s/.

Similarly, the [SINGULAR] feature in Tarifit has also one terminal node as can be seen from (7), with its surface form in (8). Under the DM framework, cases like these represent a one-to-one relationship between the underlying representation (i.e. syntax) and phonology. So, these are not subject to any interpretation by Morphology.

(7) a-m[ɨ]f.
SG-cat
'Cat'.

(8) [SING] ↔ /a-/

However, language-specific morpho-syntactic systems display a wide range of phenomena that are not as simple as the ones illustrated above. A common example often discussed is the English present tense feature in the 3rd person, as in (9): A similar case can also be seen from the Tarifit subject agreement, in (10), with the representation in (11):

(9) [3.SG, PRES] ↔ /-s/

(10) ḏ-ttəs.

3F.SG-sleep.PERF

‘She is asleep.’

(11) [3F.SG.SUB-AGR] ↔ /ḏ-/

On the basis of the fact that the underlying representation of a derivation should have a one-to-one correspondence between a morpho-syntactic feature and its terminal node in the syntax, the English and the Tarifit data in (9)-(11) do not display this correspondence. In fact, the examples have a bundle of features corresponding to a single exponent. In (9), English bundles the 3rd person-singular together with the present tense and these features are spelt out by a single vocabulary item. Similarly, Tarifit bundles person, number, gender, and subject agreement together and these features are spelt out by a single vocabulary item, as seen in (10)-(11). The process where multiple syntactic features are spelt out by a single vocabulary item is referred to as fusion (Halle and Marantz 1993, Noyer 1997). In DM, this process is argued to be the result of Morphology interpreting the syntactic output. This mechanism takes independent syntactic nodes and combines them under a single terminal, which is then spelt out by a single vocabulary item in the phonological component.

Another common strategy where Morphology manipulates the syntactic output is referred to as fission (Noyer 1997). This process is the opposite of fusion in that it splits a single node into multiple nodes as can be seen from the Tarifit data in (12):

(12)

a. i-mʃɪf-n	b. ḏ-a-mʃɪf-θ	c. ḏ-uzr-ḏ
PL-cat-PL	F-SG-cat-F	2.SG-run-2.SG
‘Cats.’	‘Female cat.’	‘You ran.’

Unlike singular, seen earlier, the plural feature in (12a) has two copies which are spelt out as a prefix and a suffix. The same process applies to feminine and the [2.SG] subject agreement in (12b) and (12c), respectively. So, all these constructions share the morphological property where a single syntactic feature is represented with two discontinuous copies; these are illustrated in (13)-(15):

(13)[PL] $\leftrightarrow$ i-; -n

(14)[FEM] $\leftrightarrow$ ǫ-; -θ

(15)[2.SG] $\leftrightarrow$ ǫ-; ǫ-

Within the present framework, Morphology is the mechanism responsible for creating the additional copy other than the one provided by the syntax. Following the morphological processes discussed, the derivation is then sent to Phonology where terminal nodes are provided with their phonological content through vocabulary insertion. This is discussed in the next section.

2.2.4 Vocabulary Insertion

This component contains a list of vocabulary items which provide abstract terminal nodes with their phonological content. Since the mapping from syntax to phonology is post-syntactic, it is in this sense that DM advocates Late Insertion of vocabulary items (Halle and Marantz 1993, Marantz 1997). Aside from their phonological features, the exponents which form the list of vocabulary items are specified for their morpho-syntactic features as seen earlier in the architecture of the framework. As for the rules that generate their insertion leading to the spell out of the syntactic terminal nodes, this process proceeds in accordance with Halle's (1997) subset principle:

"The phonological exponent of a vocabulary item is inserted into a morpheme... if the item matches all or a subset of the grammatical features specified in the terminal. Insertion does not take place if the vocabulary item contains features not present in the morpheme. Where several vocabulary items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen" (Halle 1997:427).

Two main points may be induced from Halle's Principle. First, a vocabulary item can only be inserted if the morpho-syntactic feature it is specified for is identical to the feature of the terminal node. In the English data in (16), the vocabulary item -s is specified for [PLURAL]. Since this feature is a subset of number, other features that are part of this marking may also be activated and take part in the competition for insertion. The process ensures that -s $\leftrightarrow$ [PLURAL] is the only eligible item for insertion. For instance, the phonologically unmarked singular represented here by the null symbol in (17) cannot be inserted since the item is not specified for the relevant feature, i.e. [PLURAL].

(16) /s/ → [PL].

(17) /Ø/ → [SING].

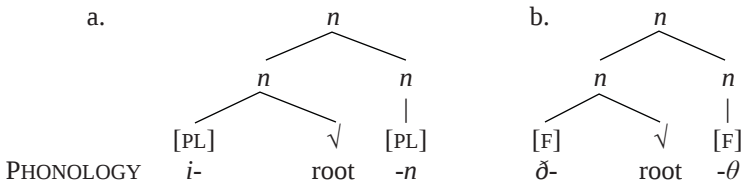
With respect to Berber, and more specifically Tarifit, the nominal marking system is slightly different from English. As seen in the previous section, the [FEMININE] and [PLURAL] features have two copies each and these are spelt out as a prefix and a suffix as in (18)–(19). Thus, Tarifi provides two vocabulary items for each morpho-syntactic feature where the relationship between syntax and phonology is one-to-two.

(18) [PL] → *i-*, *-n*.

(19) [FEM] → *ǧ-*, *-θ*.

Within the present framework, there is no competition between the two items that are specified for the same feature in that vocabulary items are not only specified for their morpho-syntactic features, but these also operate on fully specified phonological matrices. That is, these items encode phonological information regarding the way they attach to the lexical root (i.e. prefix, infix, or suffix). In the case of [PLURAL], the Berber vocabulary ensures that *i-* is inserted in the prefix position and *-n* in the suffix position. The same process applies to the two items which spell out the [FEMININE] feature. The structure of the noun relative to the plural and feminine marking is schematised as in (20):

(20)



Because the second copy of both [PLURAL] and [FEMININE] is created post-syntactically in Morphology, this has no impact on the hierarchical representation in that both copies combine with the lexical root at the same structural level and their position is simply a matter of linearity.

The second point regarding insertion that can be induced from Halle's principle is the case "Where several vocabulary items meet the conditions for insertion..." (Halle 1997: 427). A commonly discussed example in

English is the present tense in the 3rd person singular. On the assumption that the verb in other persons is phonologically unmarked, the vocabulary items that spell out the present tense form can be represented as in (21)-(22):

(21)[3SG, PRES] → -s.

(22)[PRES] → ∅.

Since both -s and -∅ share the [PRESENT] feature, these items are activated and thus compete for insertion for the same terminal node. Vocabulary insertion ensures that -s has the priority of insertion over -∅ since it is specified for all the relevant features, i.e. [3SG] and [PRESENT]. The exponent -∅ cannot be inserted since it falls short of the [3SG] feature. So, in cases like these where two vocabulary items share at least one feature the most highly specified rule applies first and the second is the general case. The elsewhere/general case represented here by -∅ is captured within the framework under the principle of ‘underspecification’ (Halle 1997); this vocabulary item is less specified compared to -s.

In the previous section, one of the examples we discussed is subject agreement in Tarifit Berber where verbs within the clause display an obligatory subject agreement which encodes information on person, number, and gender. In the example (11) in that section, we discussed the 3rd person-feminine singular repeated here as in (23):

(23)[SUBJ.AGR.3F.SG] → *ǝ-*.

Tarifit, like other Berber languages, has an additional agreement known as anti-agreement following works by Ouhalla (1993; 2005a among others). This inflection illustrated, as in (24), is triggered by the extraction of the lexical subject; the main verb in this case loses agreement with its subject in person, number and gender and defaults to the form included below.

(24)[SUBJ.AGR] → -n.

There are two vocabulary items in the data, in (23)-(24), which share the subject agreement feature. If we have a basic syntactic configuration where the main verb displays the usual subject agreement, and when the derivation is sent of interpretation by Phonology, the two items in (23)-(24) take part in the competition for insertion in the subject agreement node. The Berber vocabulary ensures that *ǝ-* is the eligible item for insertion as it is more specified than -n. The latter exponent is unspecified for ϕ -features.

A similar but slightly different morphology is found with the number and gender marking of nouns, as in (25). Singular is spelt out as *a-* in (25a), plural as *i-* and *-n* in (25b) and feminine as *ǝ-* and *-θ* in (25c). Of particular interest is the highlighted exponent *-i-* in (25d) which spells out the [FEMININE] feature. However, the insertion of this vocabulary item is conditioned by the plural node in that its appearance is exclusive to the noun when in plural. In view of the data in (25c) and (25d), the fissioned feminine feature to the right of the root may be spelt out by *-θ* or *-i-*.

(25)

a. a-θβir	b. i-θβir-n	c. ǝ-a-θβir-θ	d. ǝ-i-θβir- i -n
SG-pigeon	PL-pigeon-PL	F-SG-pigeon-F	F-PL-pigeon-F. PL -PL
‘Pigeon.’	‘Pigeon.’	‘Pigeon.’	‘Pigeons.’

During the process of insertion, as illustrated in (26), the Berber vocabulary ensures that [FEMININE] is spelt out by *-i-* when the noun is plural. Outside this environment, this feature is spelt out as *-θ*. Exponents whose insertion is dependent on another neighbouring node are also known in DM as ‘secondary exponence’ (Noyer 1997). With respect to the Berber feminine marking, the primary exponent is the [FEMININE] → *-i-* and the secondary exponent which conditions its insertion is the [PLURAL] → *-n*.

(26)

FEM → *-i-*/ [___ PLURAL].

FEM → *-θ* (elsewhere).

2.2.4.1 Insertion of lexical roots

As pointed out in section 3.2.1, lexical roots in early works on DM were assumed to be semantically empty and that competition for insertion did not apply to these roots (Marantz 1997). So, vocabulary items for roots were simply assumed to be some sort of arbitrary default signals that are inserted on the abstract roots and their semantic meaning is only decided by their syntactic context after vocabulary insertion. Similarly, Harley and Noyer (2000) argued for a mechanism which they called licensing where vocabulary items for roots were assumed to be licensed by the syntactic context in which they are inserted.

In the section dealing with the narrow lexicon, an updated theory of lexical roots was discussed following Pfau’s (2000) empirical study of spontaneous errors/slips produced by native speakers. It was shown that these ‘slips’ are

semantically related in a way where speakers produce/pronounce ‘eraser’ instead of ‘whiteboard’, ‘door’ instead of ‘window’ etc. As pointed out in section 3.2.1, this information is not relevant to the syntax but is needed during the choice of vocabulary insertion for roots. The fact that these slips when pronounced are semantically systematic (i.e. ‘eraser’ instead of ‘whiteboard’), and given that the pronunciation of elements in their terminal nodes occurs in Phonology, vocabulary items for roots must be linked to a basic semantic concept, which would explain the consistency of these random errors. So, the kinds of errors produced must be due to a competition between vocabulary items for roots that are conceptually close to one another: /dɔ:/ ↔ /windəʊ/, /eɪɪzə/ ↔ /waɪtbɔ:d/ etc. This would explain the semantic implications relative to the pronunciation of these related roots. In this sense, it can then be argued that vocabulary insertion for functional terminal nodes is based on their morpho-syntactic information, whereas competition for insertion for roots is based on their basic conceptual information.

In section 3.2.2, we noted the flexibility of lexical roots in Berber in the sense that a large part of the lexicon is shared between the noun and the verb category. It was shown that under a syntactic approach to word formation, the lexical root can be a noun or a verb depending on the category-defining head next to which that root is inserted. There, I argued that this approach obviates the need for redundantly listing these roots as both nouns and verbs as would be expected under a Lexicalist approach (i.e. generative lexicon). However, and like many other languages, not all lexical roots in Berber can be used as both nouns and verbs. For instance, the root $\sqrt{\text{dra}}$ in (27) is only found as a noun and cannot be used as a verb. Within the proposed framework, and because Phonology only interprets what is provided by the syntax, there will no interpretation of this root as a verb by phonology if syntax does not provide a context for it. That is, a vocabulary item (lexical or functional) can only be inserted on a terminal node if its structural description is met.

- (27) a- $\sqrt{\text{dra}}$.
 SG-mountain
 ‘Mountain.’

Other similar instances such as suppletion illustrated from English in (28) should follow from the same process. Phonology makes the decision for insertion based on the structure it receives from the syntax. In this case, the root $\sqrt{\text{go}}$ has two vocabulary entries to choose from; the rule of insertion

ensures that the irregular form is inserted when the terminal node is [PAST]. Outside this environment, the basic form is inserted instead.

(28)

/went/ → ____ [+PAST]

/go/ → elsewhere

2.2.4.2 *Allomorphic Variation of Vocabulary Items*

DM makes a clear distinction in the phonological component between an underlying representation and a surface representation of vocabulary items. This can be illustrated from the basic plural marking in English which has three variants: -s, -z and -əz. In DM, cases like these are part of the readjustment rules which occur after vocabulary insertion. If -s is taken to be the underlying phonological form responsible for spelling out the [PLURAL] feature, the two readjustment rules which change this item into -z and -əz are accessible after vocabulary insertion.

Other similar cases having to do with language-specific morpho-phonology can be seen from a process of vowel harmony displayed by some Tarifit nouns in (29). The highlighted final vowel of the noun root in (29a) undergoes vowel harmony becoming /i/ following the insertion of the feminine-plural exponent -i-. Note the appearance of the epenthetic glide /w/, due to the ban on vowel hiatus in Berber. Processes like these arise from the phonological interaction with other vocabulary items following vocabulary insertion, which may modify the underlying representation of phonological items.

(29) a. ḍ-ara

F-spring

‘Spring.’

b. ḍ-ariw-i-n

F-spring- F.PL-PL

‘Springs.’

In chapter five on the morphology of noun classes, I argue that some surface forms of nouns are the result of these kinds of processes which occur following vocabulary insertion and therefore not part of the morphological marking. There, I demonstrate that this hypothesis allows for a more regular morphological pattern of the plural marking system than what the surface form of some noun sets appears to suggest.

2.2.5 Encyclopaedia

The Encyclopaedia represents the semantic knowledge of language which is assigned to the derivation after the syntax. According to the DM framework, open class lexical roots have no fixed meaning in the lexicon, but these acquire their meaning in a syntactically defined context. In this sense, Marantz (1995, 1997) argues that words are simply phrasal idioms. For instance, $\sqrt{\text{KICK}}$ means ‘die’ in the context of ‘___ the bucket’ and $\sqrt{\text{CAT}}$ means ‘secret’ in the context of ‘let the ___ out of the bag’ etc. The lexicalist hypothesis argues that idiomatic expressions like these are non-decomposable lexical idiosyncrasies. Marantz disputes the claim made by Jackendoff (1996) and argues that content words are phrasal idioms where lexical roots acquire a semantic meaning in a particular syntactic context. The argument that the meaning of lexical roots is restricted to a particular syntactic context is also found with some base roots which alternate between a verb and a noun. So, $\sqrt{\text{DOG}}$ means ‘animal (pet)’ in the syntactic context of ‘[[___] *n*]’ but the same root means ‘follow someone closely’ in the context of ‘[[___] *v*]’ in addition to other different meanings listed in the *Oxford English Dictionary*.

The argument that the meaning of lexical roots is syntactically defined finds support from Berber. There is evidence that the alternation of the same base root between a noun and a verb discussed in the section dealing with the syntax has an impact on the semantic meaning of the root, as can be seen from the Tarifit data in (30):

(30)

ROOTS	NOUN	VERB
a. $\sqrt{\text{bms}}$	‘linen’	‘cover’
b. $\sqrt{\text{ðhn}}$	‘butter’	‘rub oily substance’
c. $\sqrt{\text{ðw}}$	‘wind’	‘fly’
d. $\sqrt{\text{kufs}}$	‘saliva’	‘spit’
e. $\sqrt{\text{mtta}}$	‘tear’	‘whine’

Under a syntactic approach to word formation in the sense of DM, the variation in meaning is assigned to the root by the category-defining head depending on whether it is an *n*-node (noun) or a *v*-node (verb). So, $\sqrt{\text{bms}}$ in (30a) is interpreted as ‘linen’ next to an *n*-node and as ‘cover’ next to a *v*-node; $\sqrt{\text{ðhn}}$ in (30b) as ‘butter’ next to an *n*-node and as ‘rub oily substance’ next to a *v*-node; $\sqrt{\text{ðw}}$ in (30c) as ‘wind’ next to an *n*-node and as ‘fly’ next to a *v*-node; $\sqrt{\text{kufs}}$ in (30d) as ‘saliva’ next to an *n*-node and as ‘spit’ next to

a *v*-node and $\sqrt{mtta}$ as ‘tear’ next to an *n*-node and as ‘whine’ next to a *v*-node etc. Despite the basic conceptual meaning that is associated with the root as proposed by Pfau (2000), the semantics of these roots in their syntactic environment remains productive. Arad (2005) discusses at length similar instances from Hebrew roots whose semantic meaning varies according to their syntactic context.

The variation in meaning is also found within the same category. For instance, many verbs in Tarifit transitive use the synthetic causative *s*- as in (31). These examples show how the semantic meaning can vary dependent on whether the base root is used as intransitive or transitive.

(31)

VERB_[INTRANS.]	VERB + CAUSATIVE_[TRANS.]
<i>kar</i> ‘educate/read’	<i>s-kar</i> ‘teach’
<i>xǝm</i> ‘work’	<i>s-xǝm</i> ‘employ’
<i>ʃ</i> ‘eat’	<i>s-ʃ</i> ‘serve food’

The alternation between the intransitive and transitive use of the verbs, in (31), shows that a language like English uses different roots but Berber uses the same root which varies in meaning depending on whether it is an intransitive or transitive verb. Under the proposed theory, the variation in meaning between the intransitive and transitive has to do with the interpretation of the same base root in different syntactic domains. The meaning associated with the intransitive use is restricted to the (lower) VP domain but the meaning of the same lexical root changes when the interpretation includes the higher (agentive) vP projection whose head is spelt out by the causative *s*-.

PARTS OF SPEECH

3.1 Introduction

This Chapter provides a basic grammatical description of Tarifit paving the way to an in-depth investigation of the main aspects of the morphosyntax in subsequent chapters. Building on the discussion of parts of speech in the previous chapter, one of the main objectives of this chapter is to argue for an optimal typology of categorization which alternates between the nominal and verbal category.

The main part of speech representing the nominal category is the noun, which inflects for number and gender. What are referred to as ‘adjectives’ in a language like English are nominal modifiers in the attributive case in Berber in that they are also marked for gender and number. Kinship nouns represent their own subset in that they are inalienable lexical roots selecting possessive pronouns. Although they behave like common nouns, in the sense that they are marked for gender and number, the morphology of kinship nouns is displayed differently. Tarifit has a productive pronominal system which consists of personal pronouns, object and dative clitics, possessives, anaphors, and demonstratives. These functional elements are classified with the nominal category in that they are all marked for gender and number, in addition to other relevant features that are typically nominal. Other nominal categories discussed in this chapter include the nominal copula and a coordinator which can only be used in a nominal clause. Prepositions are also classified with the nominal category in that they behave morphologically more like prefixes to the noun they select.

As for the verbal category, this is mainly represented by lexical verbs which are marked for aspect. The main aspectual forms are the perfective and imperfective, which are interpreted as past and present respectively. Two additional aspect forms are identified: (1) a perfective form that is exclusive to negation, and (2) an aorist form which is mainly associated with the imperative. Unlike lexical verbs, some function verbs may be marked for both aspect and tense. Other elements that are part of the verbal category

include subject agreement, negation, and adverbs. Aside from its correlation with the verbal clause, the fact that negation marks the verb for a particular aspectual form is further evidence that it must be classified with the verbal category. As for adverbs, these are not morphologically marked so their grammatical function can only be identified through syntactic means. These elements all share the property of providing semantic information to the verb they modify, which suggests that they have an adverbial function and should therefore be classified with the verbal category.

3.2 Nominal Category

Three lexical elements form the nominal category: (1) nouns, (2) nominal modifiers in the attributive case and (3) kinship nouns, which are morphologically distinct from other common nouns.

3.2.1 Nouns

The only morphological information available to nouns in Tarifit is number and gender. There are no other specifications in the system. For instance, nouns have no morphological marking on definiteness, nor do they encode case morphology. So, these features are only syntactically marked⁷. Number makes a two-way distinction between singular and plural, as can be seen from the data below in (1). Singular is generally marked by *a-*, as in (1a) whereas plural has two copies: *i-* and *-n*, as in (1b). This marking is generally shared by all other major studied Berber languages.

(1)

a. **a-funas**

SG-cow

‘Bull.’

b. **i-funas-n**

PL-cow-PL

‘Bulls.’

While the morphological pattern in (1) is possibly the most common, other paradigms may also be found. For instance, the only morphological information on number in (2) is the plural suffix *-n* whereas singular has no overt form. This noun has a vowel in the initial position but the fact that it is invariant in both the singular and plural context is evidence that it is part of the root and therefore not a morpheme.

⁷ Berber nouns also inflect for what is known as the Construct State (CS). This marking generally arises when the noun is the subject in VSO or the complement of a preposition. The CS phenomenon is examined in greater detail in chapter six.

(2)

- | | |
|-----------------------------------|--|
| a. aβriw
eyelash
‘Eyelash.’ | b. aβriw- n
eyelash- PL
‘Eyelashes.’ |
|-----------------------------------|--|

Aside from the basic morphological marking seen in (2), which is the most common, other patterns are also found. While the morphology of the noun in (3) shares some similarities with the noun in (2), mainly the singular and the plural marking in the prefix position, the second copy of the plural feature in (3) is marked by the infix *-u-*.

(3)

- | | |
|--|--|
| a. a-ǎ ra
SG-mountain
‘Mountain.’ | b. i-ǎ-u -ra
PL-mountain
‘Mountains.’ |
|--|--|

Tarifit, like its other Berber counterparts, has also a set of nouns which appears to make use of stem-based morphology. In (4), and in addition to the number morpheme in the prefix position, a second copy of plural is manifested by ablauting the second vowel of the root to *-a-* as in (4b). Similar morphology is also found in other Berber languages (Dell and Jebbour 1995, Idrissi 2001). In the next chapter, I explore this morphology in greater detail; I argue for an affix-based morphology, despite what appears to be an irregular surface marking of plural.

(4)

- | | |
|--|--|
| a. a-zaθ ir
SG-carpet
‘Carpet.’ | b. i-zaθ-a -r
PL-carpet _{PL}
‘Carpet.’ |
|--|--|

As for gender, its morphology makes the distinction between feminine and masculine. This gender alternation between feminine and masculine generally applies to all Afroasiatic languages, according to Corbett (1991). In strict morphological terms, feminine is the only marked feature in Berber while masculine is the unmarked form. This can be seen from the nouns discussed in (1)-(4). The fact that all these nouns have no morphological information on gender makes them masculine by default. Berber nouns have inherent gender, including those referring to inanimate objects. It is important to note that ‘inherent’ is not used here in the traditional sense to mean that gender may be associated with roots in the Lexicon, which I argue

here are category-less, but the term is used in the sense that every noun is classified as either feminine or masculine when used in the syntax. Under the DM framework, these features are the property of the category-defining head which spells out the lexical root as a noun.

The morphology of feminine is largely consonantal and is generally marked as a prefix and a suffix, as in (5). The two morphemes are found in other varieties as the corresponding stop: [t]. This phonological innovation that Tarifit has adopted is due to the process of spirantisation, which applies to many other consonant stops. This issue was discussed in chapter two. Note the interaction between feminine and plural, in (5b), which was discussed in the previous chapter. The fact that the highlighted plural marker *-i* appears in the environment of feminine suggests that this morpheme is specified for both [+F] and [+PL]. Other feminine patterns are discussed in chapter five dealing with the morphology of nouns.

(5)

a. *ð-a-funas-θ*

F-SG-COW

‘Cow.’

b. *ð-i-funas-i-n*

F-PL-COW-F.PL-PL

‘Cows.’

Like many natural languages, gender in Berber may also contribute to the semantics of the noun it combines with. More specifically, it may assign augmentative or diminutive meaning to that noun. Cross-linguistically, it is common that masculine and feminine usually correlate with augmentative and diminutive, respectively. However, the semantic implication of gender in Tarifit is not always predictable and is mainly dependent on the lexical root. For instance, the masculine noun used in (6a) has an augmentative meaning whereas the feminine form in (6b) has a neutral interpretation. Conversely, the masculine form in (7a) has a neutral meaning whereas the feminine form in (7b) has a diminutive meaning⁸.

⁸ Gender may also assign idiomatic meaning to the noun. The feminine form in (7a) may also mean ‘battery’ that is used for small appliances. Another example can be seen from the data below in (i) & (ii). The masculine form of the noun in (i) means ‘man’, whereas the feminine form of the same root means ‘courage’ so it does not necessarily mean the opposite sex (i.e. ‘woman’). The latter meaning is expressed using a different lexical root: *ð-a-mɛar-θ*: F-SG-woman-F ‘woman’. However, the unmarked/masculine form of the root: *a-mɛar* means ‘tribe leader’. On the assumption that the lexical root inflects for gender and number in the syntax, this lexical root acquires a fairly productive semantic meaning dependent on the context.

(6)

- | | |
|--|---|
| a. a- <i>kənʒa</i>
SG-spoon
'Big spoon.' | b. <i>ǝ</i> -a- <i>kənʒaj-θ</i>
F-SG-spoon-F
'Spoon.' |
|--|---|

(7)

- | | |
|----------------------------------|--|
| a. a-zru
SG-stone
'Stone.' | b. <i>ǝ</i> -a-zru-t
F-SG-stone-F
'Small stone.' |
|----------------------------------|--|

3.2.2 Nominal Modifiers

What are referred to as adjectives in a language like English such as *big*, *old*, *sour*, *sweet*, etc. in the attributive case, are nominal modifiers in Berber (Guerssel 1986, Ouhalla 1988). I show in 'section 4.3' dealing with the verbal category that the same lexical roots in the predicative case are realised as stative verbs. This typology is straightforwardly accounted for under the proposed theory if the basic lexical root is taken to be category-less, as discussed in the previous chapter. The root then acquires its categorial status as nominal or verbal, depending on its syntactic structure. Consider the highlighted nominal modifiers in (8)-(9):

- | | |
|--|--|
| (8) a-rgaz
SG-man
'The old man.' | a-wssa.
SG-old |
| (9) <i>ǝ</i> -a-m <i>k</i> a- <i>θ</i>
F-SG-boy-F
'The young woman.' | <i>ǝ</i>-a-mzian-t.
F-SG-small-F |

For instance, the root $\sqrt{mkar}$ can be used also as a nominal modifier (adjective). In this syntactic context, it has the meaning of 'big'.

- | |
|---|
| (i) a-rgaz- <i>θ</i>
SG-man-F
'Man.' |
| (ii) <i>ǝ</i> -a-rgaz- <i>θ</i>
F-SG-man-F
'Courage.' |

A first-hand examination of the highlighted nominals shows that they encode identical morphology to the nouns they are selected by, in the sense that they are marked for number and gender. This begs the question as to whether these should be treated as nouns. There are two pieces of evidence which indicate that these lexical elements cannot be analysed as nouns. The first evidence comes from their behaviour in the sentences below in (10):

(10)a. a-rgaz i-awr.
SG-man 3M.SG-escape.PERF
'The man ran away.'

b. *a-wssa i-awr.
SG-old 3M.SG-escape.PERF

The genuine noun in (10a) can be the subject of the verb but the second nominal in (10b) cannot fill that function. That is, it cannot be the argument of the verb. The sentence in (10b) can be grammatical only if that nominal refers to a morphologically elided noun supplied by the context (i.e. the old one). The second evidence comes from the construction below in (11):

(11) *a-wssa a-rgaz.
SG-old SG-man

The data above shows that the order of the noun and the nominal modifier cannot be swapped. This suggests that the two nominals cannot be two independent DPs. The fact that these nominal modifiers are always dependent on the nouns they modify is a clear indication that they are head dependent and should therefore be treated as nominal adjuncts. As for the morphology they share with the head noun, these inflections are not assigned to them independently in the syntax but are copied onto these nominals from the DPs they modify via agreement. This explains why their presence in the clause is strictly dependent on the presence of the lexical DP. In view of these facts, I follow other Berberists (Guerssel 1986, Ouhalla 1988, El Moujahid 1997) by concluding that these are nominal adjuncts⁹.

A language like English has different kinds of adjectives, in that some refer to a permanent state whereas others refer to a temporary state. These are also known as individual level and stage level kinds of predicates,

⁹ It is important to note that the roots which correlate with nominal modifiers are not restricted to an adjectival use only but can also be used as (abstract) nouns: $\sqrt{\text{vazag}}$ 'sour' $\rightarrow$ $\delta\text{azag}\theta_N$ 'sourness', $\sqrt{\text{bar}\varphi\text{an}}$ 'black' $\rightarrow$ $\delta u\text{bar}\varphi\text{nt}_N$ 'blackness', $\sqrt{\text{mzi}}$ 'youth' $\rightarrow$ δmzi_N 'youth' etc.

respectively (Carlson 1977). In English, these adjectives require special ordering as can be seen from (12a&b). The temporary state adjective ‘sick’ must precede the permanent state adjective ‘old’, which explains the ungrammaticality of (12b):

- (12)a. The sick old man.
 b. *The old sick man.

Tarifit Berber does not use multiple adjectives in this way, in that the contrast between ‘permanent’ and ‘temporary’ state is expressed using two different grammatical categories: nominal ↔ verbal. The nominal modifiers have a permanent state interpretation in the attributive case. Conversely, the same roots acquire a temporary reading when used in the predicative case as stative verbs. Nominal elements/adjectives having a permanent reading, unlike verbal predicates, is not unique to Berber but appears to be cross-linguistically common (Milsark 1974, Carlson 1977 and Baker 2013). So, the Tarifit sentence equivalent to its English counterpart in (12a) may be realized as in (13):

- (13)a. a-rgaz a-wssa i-hrç.
 SG-man SG-old 3M.SG-sick.PERF
 ‘The old man is sick.’
 b. a-rgaz a-m-hruç i-wssa.
 SG-man SG-REFL-sick 3M.SG-old.PERF
 ‘The sick man is old.’

The permanent state should be associated with the nominal modifier of the subject, as in (13a). In this case, the state of being ‘sick’ is temporary since it is used as a stative verb. Although the state of being ‘old’ may be interpreted generally as permanent, its use as a stative verb in (13b) forces a temporary reading whereas ‘sick’ may have a permanent reading by virtue of the fact that it is nominal (i.e. ‘sick all the time/ongoing illness’ versus ‘becoming old’). Similarly, stative verbs may have a generic reading but the fact that they are marked for perfective, which defaults to present tense, makes them acquire a time reference. It is this aspect marking that makes the state interpretation more likely to be temporary.

3.2.3 Kinship Nouns

Kinship nouns form their own subclass, in that they are inalienable nouns consisting of a lexical root and a possessive pronoun. In this sense, the

lexical root must combine with the pronoun for it to have a meaningful interpretation. Kinship terms as inalienable nouns appear to be cross-linguistically common (Aikhenval't 2000). There are four native lexical roots that are used as kinship nouns, as in (14)-(15)¹⁰. Also important is that the pronouns which these roots select to express possession are the same as dative clitics. In section 4.2.4.4, I show that possessive pronouns that are used with common nouns are different from the ones used with kinship nouns. These are morphologically independent and do not attach to the noun they modify. In this section, I first discuss the morphology of kinship roots followed by the possessive pronouns.

(14)

- | | |
|-------------------|---------------------|
| a. aba-s | b. jəmma-s |
| father-3SG.POSS | mother-3SG.POSS |
| 'His/her father.' | 'His/her mother.' |
| c. mmiθ-nʌ | d. jəɖʒiθ-sn |
| son-1PL.POSS | daughter-3M.PL.POSS |
| 'Our son.' | 'Their daughter.' |
| e. uma-m | f. uʃʃma-ç |
| brother-3F.SG | sister-2M.SG |
| 'Your brother.' | 'Your sister.' |

The kinship nouns in (14) can be divided into three semantic categories. The pair (14a&b) refers to the concept of 'parenthood', (14c&d) to the concept of 'child' in relation to parents; the same applies to (14e&f) except that the kinship relation is of a 'child ↔ child' (brother/sister). The alternation of gender with these three pairs is lexically marked in the sense that each pair uses different roots to express masculine or feminine¹¹. Since kinship nouns are relational, the roots in (14a&b) referring to parenthood cannot be pluralized for pragmatic reasons (i.e. *my fathers/mothers). Other Kinship nouns have their own number marking that is different from common nouns. The kinship pair referring to the concept of 'child' (i.e. son/daughter) in

¹⁰ Another less common kinship root but still used is: *raɖʒa*. This noun refers to the 'uncle's wife' (from the father's side) or can sometimes be used to refer to an older brother's wife. Other kinship nouns are borrowed from Arabic but follow the same morphological pattern as native nouns, in that they also are inalienable and appear with possessive pronouns. These are: *ʔzizi* 'father's brother', *xari* 'mother's brother', *ʔndi* 'father's sister' and *xaffi* 'mother's sister'.

¹¹ The roots in (14e&f) appear to be an exception to this general tendency; the root *uma* is shared by both masculine and feminine. This bare root is then interpreted as masculine whereas feminine is marked by the infix: *-ʃʃ-*.

(14c&d) have their number marked using different lexical roots as in (15). Note that the plural form for ‘son’ in (15b) uses a kind of basic root, which is a regular noun, referring to the concept of ‘birth’ with a feminine prefix but is interpreted as plural in the relevant context in the sense that it means ‘children’. Similarly, the root expressing the concept of ‘daughter’ in (15c&d) have their number expressed through suppletion.

(15)

- | | |
|------------------------|---|
| a. mmi
‘son.’ | b. ḏ-awa
F-birth
‘Sons/children.’ |
| c. idʒi
‘Daughter.’ | d. issi
‘Daughters.’ |

The other two kinship nouns referring to ‘brother/sister’ have their own gender and number morphology that is different from common nouns, as in (16). These two terms share the root: $\sqrt{ma}$. Gender in the singular form is only marked for feminine using *-f-* whereas masculine is the unmarked form. On the other hand, the plural form in masculine is marked as *aiθ-* and feminine as *suiθ-*. In other words, the morphemes are marked for masculine-plural and feminine-plural, respectively. Under the theoretical framework proposed, the process where one morpheme is specified for more than one syntactic feature was referred to in chapter two as fusion in the sense that two morphosyntactic features merge and spelt out by a single morpheme in phonology.

(16)

	SING		PL	
	MASC	FEM	MASC	FEM
‘brother/sister’	uma	u- f -ma	aiθ -ma	suiθ -ma

Note that the two prefixes can also combine with tribal names to indicate possession, as in (17). The prefix in that example does not only mark its lexical root for masculine plural but has also a pronominal function referring to a (phonetically) elided noun/possessum understood from the context (i.e. ‘those belonging to X-tribe’). This use is generally maintained across different Berber language.

(17) **aiθ**-qmra.

M.PL-qmra

‘Those belonging to the Qmra tribe.’

As for the possessive pronouns representing the possessor, which combine with kinship roots, their complete paradigm is included below in (I). With respect to their morphosyntactic features, these pronouns encode information on person, number, gender, and possession. As for their reference, they identify the possessor DP whereas the lexical root is the possessum. Like the nominal category, more broadly, gender marking is conditioned by number in the sense that this feature varies depending on whether the context is singular or plural. We will see in the coming sections that this marking system is generally shared by other pronoun sets. The morphosyntactic specification of the possessive pronouns is not always productive. For instance, the 1st person singular is the unmarked form. So, any kinship noun that appears alone defaults to the first the person singular as pointed out above. Similarly, the 1st person and 3rd person singular make no gender distinction.

I.

PERSON	SING		PL	
	MASC	FEM	MASC	FEM
1	-∅		-θnɛ	
2	-ç	-m	-θçum	-θçnd
3	-s		-θsn	-θsnd

The possessive pronouns used with kinship roots listed above are the same as dative clitics, as will be seen in ‘section 4.2.4.3’. The typology whereby the dative is used to express possession is not unique to Berber but is cross-linguistically common. For instance, French is another language which makes use of the dative preposition *à* ‘to’ to express possession. The interplay between genitive and dative are also found with some nouns in Tarifit. Common nouns generally combine with possessive/genitive pronouns as can be seen from (18):

(18) a-sðir

ins.

SG-bucket **3SG.POSS**

‘Her/his bucket.’

However, possession with some nouns can appear in the dative or genitive form as in (19). El Moujahid (1993) shows that Tashelhit Berber may also express possession using the dative or genitive as in (20a&b).

(19) *ǝ-ixamin-as/ins.*

F-behind-3SG.DAT/3SG.POSS

‘Behind him/her.’

(20) a. *i-ḥsa* [tanddamt **i-** Sidi Ḥmmu]. (Tashelhiyt)
 he-learned [poetry to- Sidi Ḥmmu]
 ‘He knows Sidi Ḥmmu’s poetry by heart.’

b. *i-ḥsa* [tanddamt **n-** Sidi Ḥmmu].
 he-learned [poetry of- Sidi Ḥmmu]
 ‘He knows Sidi Ḥmmu’s poetry by heart.’

(El Moujahid 1993:395-6)

3.2.4 Pronouns

This part explores the system of pronouns in Tarifit which includes personal pronouns, object pronouns, dative pronouns, and possessives.

3.2.4.1 Personal Pronouns

As can be seen from (II), personal pronouns in Tarifit are marked for person, gender, and number. These pronouns are not marked for case in that their form does not vary, regardless of whether they refer to the object or subject. In view of this, I show later in this section that these pronouns cannot assume an argument role.

II.

PERSON	SING		PL	
	MASC	FEM	MASC	FEM
1		nɛ	nɛ -nin	
2	ɛ -k	ɛ -m	knɛ -w	knɛ -nd
3	ntta	ntta -θ	nθnin	nθnin -d

As we have seen with lexical nouns and possessive pronouns which are used with kinship nouns, gender morphology in the paradigm above is conditioned by number. So, the masculine and feminine forms vary dependent on whether the context is singular or plural. We will see that this

strategy is also displayed by other pronouns. There is also some predictability in the way person, number and gender are marked on these pronouns. For instance, the 1st person displays less morphological productivity than the other two persons in that it is not marked for gender. As for number, it is only marked for plural using *-nin* while the form that is interpreted as singular, (i.e. *n/*) is the default unmarked form. The second person has two main forms, which alternate between singular and plural. For singular, the base form is *-f-* which then combines with the masculine *-k* or feminine *-m*. Similarly, the base form for plural is *knni-* which then combines with the masculine *-w* or feminine *-nd*. The third person in singular makes use of the basic morpheme *ntta*. This form is then marked for feminine by *-θ* whereas masculine is the unmarked form. This pattern also applies to plural whose base form is *nθnin*. Feminine is then marked by *-d* and masculine is the unmarked form. Note that masculine being the unmarked form was also observed from common nouns.

As for their contribution to argument structure, personal pronouns are syntactically deficient nominals in that they cannot assume an argument role. Their function has more to do with discourse than grammar, in that they often convey emphasis when used in conjunction with a proper argument/DP. The fact that personal pronouns cannot be arguments can be seen from the data below in (21):

- (21) a. Mina *θ-zra* **i-nbjiw-n.**
 Mina 3F.SG-see.PERF **PL-guest-PL**
 ‘Mina saw the guests.’
- b. *Mina *θ-zra* **nθnin.**
 Mina 3F.SG-see.PERF **3M.PL**
- c. (nttaθ) *θ-zra* i-nbjiw-n.
 3F.SG 3F.SG-see.PERF PL-guest-PL
 ‘She, herself, saw the guests.’

In (21a), the object of the clause is a lexical DP. However, an attempt to substitute the lexical object with a personal pronoun is ruled out as in (21b). Note that a personal pronoun can be used optionally to refer to the subject DP, as in (21c). However, the presence of the pronoun in that sentence bears no relevance to argument structure in that Tarifit, like other Berber languages, is a pro-drop language. So, the true argument/subject in (21c) is pro and the optional personal pronoun marks emphasis. In view of the evidence presented, it can then be concluded that personal pronouns cannot function as arguments.

3.2.4.2 Object pronouns

The table below, in (III), illustrates the complete object pronoun inventory in Tarifit. Although object pronouns are treated as basic primitive morphemes, which encode information on phi-features and case, their morphology points to some regular patterns in the way particular forms are organized relative to the features they are specified for. Aside from the 1st person, which does not make gender distinction, the 2nd person makes use of the invariable *-f* as the base form. In masculine, feminine is marked by *-m* whereas masculine is the unmarked form. In plural, the base form *-f* combines with *-çum*, which appears to be the morpheme marking plural yielding *f-çum* → 2.P-PL¹². Feminine is then marked by *-d* whereas masculine is the unmarked form. A similar pattern is also found with the 3rd person plural whose base form is *-θn*. Feminine is then marked using *-d* whereas masculine is unmarked.

III.

PERSON	SINGULAR		PLURAL	
	M	F	M	F
1		-ay		-nɛ
2	-f	-f m	-fçum	-fçumd
3	-θ	-t	-θn	-θnd

Object pronouns have two main syntactic properties. First, because they encode all the features relevant to argument structure, namely ϕ -features, Tarifit (and other Berber languages more broadly) has the option of dropping the lexical object while the grammatical information on that object is assumed by the pronoun. In this sense, object pronouns are nominal elements and should therefore be part of the nominal category. Without pre-empting my study of these pronouns in chapter eight, some basic data are provided below to show their contribution to argument structure. The transitive sentence in (22a) makes use of a lexical object. Alternatively, an object pronoun may be used as a substitute for the lexical DP as in (22b):

¹² The second person plural feminine is normally produced as: *fçund/fçnd*. Given that the plural form in masculine is *-fçum*, it appears that /m/ has been assimilated following the insertion of /d/ in feminine becoming /n/.

- (22) a. i-zra **a-mʃiʃ.**
 3M.SG-see.PERF **SG-cat**
 ‘He saw the cat.’
- b. i-zri **-θ.**
 3M.SG-see.PERF **3M.SG.ACC**
 ‘He saw it.’

The second grammatical property which is associated with these pronouns is that they are ‘special clitics’ in the sense of Zwicky (1977). For instance, the presence of some preverbs such as negation, tense/aspect or a complementiser triggers the movement of these pronouns from a lower position within the VP to a higher position preceding it. In (22b), the object pronoun follows the main verb. When the same sentence is used with an additional preverb represented here by negation, the pronoun precedes rather than follows the verb as in (23):

- (23) u- **-θ** i-zri-.
 NEG **3M.SG.ACC** 3M.SG-see.PERF
 ‘He did not see it.’

This kind of movement which is widely attested with other clitic languages does not apply to the lexical object. I show in the next section that dative pronouns are also clitics and display the same movement. Since object pronouns are clitics, it is worth pointing out that Tarifit and other Berber languages do not allow clitic doubling of the object. This can be seen from (24), where the co-occurrence of the object clitic and its lexical counterpart makes the sentence ungrammatical.

- (24) *ǰ-zri **-θ** **a-mʃiʃ.**
 3F.SG-see.PERF **3M.SG.ACC** **SG-cat**
 ‘She saw him the cat.’

One last property has to do with their phonology; object clitics in Tarifit are deficient vocabulary items, in the sense they cannot stand alone in phonology as independent meaningful units. More specifically, these are enclitics in that they appear to the right of their host. Issues surrounding the syntactic and phonological properties of clitics are subject to an in-depth treatment in chapter eight.

3.2.4.3 Pronominal Dative-clitics

Dative pronouns also encode information on gender, number, person, and case as can be seen from the list below in (IV). These pronouns also bear some similarity to object clitics, having to do mainly with their morphological predictability. The 1st person and 3rd person singular do not make gender distinction. The second person singular has *a* as the base-form which then combines with *-ç* and *-m* to mark masculine and feminine, respectively. As for plural, it has *-çum* as the base-form which combines with *-d* to mark feminine whereas masculine is unmarked. Comparing the list of object and dative clitics also reveals that the 1st person does not make case distinction between the object and the dative.

IV.

PERSON	SINGULAR		PLURAL	
	M	F	M	F
1		-aj		-nɛ
2	-aç	-am	-çum	-çumd
3		-s	-sn	-snd

The data in (25) illustrate the use of the dative clitic in a basic sentence. In a ditransitive clause where the internal arguments are lexical, the indirect object which is always selected by the dative preposition *i-* ‘to’ follows the object, as in (25a)¹³. The reverse order is also allowed as in (25b). This option was also pointed out by Ouali (2011) from Tamazight.

- (25) a. ð-uʃa ð-i-sira **i-** jəmma-s.
 3F.SG-give.PERF F-PL-shoe **to** **mother.CS-3SG.POSS**
 ‘She gave shoes to her mother.’
- b. ð-uʃa **i-** jəmma-s ð-i-sira.
 3F.SG-give.PERF **to** **mother_{CS}-3SG.POSS** F-PL-shoe
 ‘She gave to her mother shoes.’

When the dative is a pronoun, the latter encliticizes to the verb and the lexical object follows as in (26a). When the two objects are both clitics, the

¹³ I should point out that the dative preposition *i-* can also have the semantic role of beneficiary: ‘for’.

(26) a. *ð-uʃa-s* *ð-i-sira (i- jəmma-s).*
 3F.SG-give.PERF-3SG.DAT F-PL-shoe to mother.CS-3SG.POSS
 ‘She gave shoes to her (mother).’

- Unlike the object, the data in (26) show that the dative clitic and its lexical counterpart may co-occur, which implies that the doubling of the dative is optionally allowed. This property is not exclusive to Tarifit but is widely attested in many other Berber languages.

(27) a. i-ska ʔaʃklit i- uma-s.
3M.SG-buy.PERF bicycle DAT- brother-3SG.POSS
'He bought the bicycle for his brother.'

- Similarly, the verb in (28) is intransitive but can also co-occur with the dative. So, the dative in this case is not a core argument but has more like an oblique role. In configurations like these, however, the dative usually has the meaning of possession. The dative having an oblique role which is often associated with prepositions such as genitive, instrumental, and locative appears to be cross-linguistically common (Blake 2001).

- (28) a. ð-ʔjar g- w-xxam i- **jəmma-s.**
 3F.SG-play.PERF in CS-room DAT- mother-3SG.POSS
 ‘She played in her mother’s room.’

- b. ð-ʔjara-s g- w-xxam.
 3F.SG-play.PERF-3SG.DAT in CS-room
 ‘She played in her room.’

The last property has to do with the fact that dative pronouns are ‘special clitics’, like the object pronouns seen in the previous section. In (29a), the dative pronoun follows the main verb in the usual fashion. When a preverb is used, which is represented here by the future morpheme, as in (29), the dative undergoes clitic movement to a position preceding the verb.

- (29) a. δ -dʒf -as azʔaθ.
 3F.SG-divorce.PERF 3SG.DAT last.year
 ‘She divorced him last year.’
- b. að- -as δ -dʒf ðuðʃʃa.
 FUT 3SG.DA 3F.SG-divorce tomorrow
 ‘She will divorce him tomorrow.’

I should also point out that there are verbs in Tarifit which take the dative as the only internal argument, and that the verb used in (29) above is among those.

3.2.4.4 Possessive Pronouns

Possessive pronouns in Tarifit encode morphological information on person, gender, number, and possession. The complete paradigm of possessive pronouns is represented as in (V), relative to the features they are specified for.

V.

PERSON	SING		PL	
	MASC	FEM	MASC	FEM
1 st Person	in-u		n-nɛ	
2 nd Person	in-ç	in-m	n-çum	n-çnd
3 rd Person	in-s		n-sn	n-snd

As seen in ‘section 4.2.3’, kinship nouns appear with possessive pronouns. However, a difference must be drawn between those pronouns and the ones examined here. In that section, it was pointed out that possessive pronouns which appear with kinship nouns are dative. Conversely, possessive pronouns discussed here are genitive. Without pre-empting my discussion on prepositions in ‘section 4.2.8’, a note relevant to the present discussion is in order. Prepositions in Tarifit select a dative pronoun as their object when the latter is pronominal. The preposition, which expresses the genitive meaning is *n-* ‘of’. So, possessive pronouns are built from the genitive

preposition and the dative pronoun. This combination then undergoes reanalysis becoming an independent possessive pronoun, equivalent to the English ‘my’, ‘yours’, ‘his’ etc. The possessive pronoun consisting of the genitive preposition *n-* + dative pronoun above in (V) displays a slightly different form in singular. This combination has the additional vowel /i/ preceding the preposition *n-* ‘of’. It is not clear whether this vowel is an augmented form that is prosodically driven or is the dative preposition *i-* ‘to’.

As for their contribution to argument structure, possessive pronouns are used as substitutes for the lexical PP involving the genitive preposition *n-* ‘of’ and its object DP. So, the highlighted genitive PP in (30a) can be substituted for the possessive pronoun as in (30b). Note that the pronoun occupies the same position as its lexical PP counterpart, in that it must always follow the first DP/possessum.

- (30) a. a-xxam **n-** **Nunʒa**.
 SG-room **of** **Nunʒa**
 ‘Nunja’s room.’
- b. a-xxam **ins**.
 SG-room **3SG.POSS**
 ‘His/her room.’

3.2.4.5 *Demonstrative Pronouns*

What makes demonstratives part of the nominal category is that they encode information on gender and number. These pronouns are also specified for the length of space between the speaker and the addressee. The set of demonstrative pronouns available to Tarifit is included in the table below in (VI):

VI.

DISTANCE	SING		PL	
	MASC	FEM	MASC	FEM
PROXIMATE	wa	θa	jina	θina
MEDIUM	wənni	θənni	jinni	θinni
DISTANT	win	θin	jinin	θinin

The distance feature consists of three main orientations: (1) PROXIMATE → ‘close to speaker’, (2) MEDIUM → ‘close to addressee but far from speaker’ and (3) DISTANT → ‘far from both speaker and addressee’. The three

orientations found in Tarifit are not shared by some other Berber languages. For instance, Tamazight (Sadiqi 1997) and Taqbaylit (Chaker 1983) are reported to have only two orientations: PROXIMATE versus DISTANT. Demonstratives are also [+DEF] and their combination with a lexical DP always makes it definite. As for their gender and number marking system, and like other nominal categories, gender is conditioned by number. So, the pronouns in (VI) have a form of gender for singular and another form for plural. Note that the forms included in the table are the ones found when the demonstrative is used alone and refers to a (phonetically) elided noun understood from the context. These usually involve a prosodically augmented form that allows the pronoun to stand alone as a free morpheme. When the demonstrative co-occurs with a lexical DP, a reduced form is used making the pronoun behave more like an affix to the noun. This issue is discussed below.

Gender marking with demonstratives displays the same system to the one found with lexical DPs. That is, feminine is the only marked form and represented by the prefix *θ-* whereas masculine is the default unmarked form. The two glides [w] and [j] found with the masculine form in (VI) are prosodically augmented forms that are required when the demonstrative is used alone without the lexical DP as in (31a). The epenthetic glide is a common phonological process in Berber which is motivated by the ban on onsetless syllables at the beginning of a new syllabification domain (Dell and Elmedlaoui 1985, Dell and Tangi 1992, Guerssel 1986a). The insertion of the glide allows the pronoun to be a free independent morpheme. When the demonstrative co-occurs with a lexical DP, as in (31b), a reduced form without the glide is used making the demonstrative as a suffix to the lexical DP.

- (31)a. **wa** i-ttəs.
 DEM.SG 3M.SG-sleep.PERF
 ‘This (one) is asleep.’
- b. a-frux-**a** i-ttəs.
 SG-boy-DEM 3M.SG-sleep.PERF
 ‘This boy is asleep.’

The feminine form of the demonstrative displays a similar distributional pattern. It can be used alone referring to a (phonetically) elided subject, as in (32a), or in combination with a lexical DP, as in (32b):

- (32) a. **θa** *θ-tts.*
 DEM.F.SG 3F.SG-sleep.PERF
 ‘This one_[FEM] is asleep/sleeping.’
- b. *θ-a-frux-θ-a* *θ-tts.*
 F-SG-child-F-DEM 3F.SG-sleep.PERF
 ‘This girl is asleep/sleeping.’

Although demonstratives in the feminine form are free morphemes, as seen in (32a), these pronouns become affixal to the lexical DP they modify, as in (32b). This is because the feminine morpheme *θ-* on the demonstrative is not maintained when it is adjacent to an identical feminine morpheme in the suffix position of the lexical DP.

One last point has to do with the argument status of the demonstrative when used alone, as seen in (31a) and (32a). Evidence that the pronoun is an argument/subject of the sentence comes from the fact that the verb agrees with the demonstrative in number and gender. The number and gender features of the demonstrative are copied onto the subject agreement on verb.

3.2.5 The Nominal Copula: *θ-*

The nominal copula in Tarifit is represented by the morpheme *θ-*. This element is also attested with the other major studied Berber languages, which is generally found as *d-* (Chaker 1983, El Moujahid 1997, Kossmann 1997, Galland 1979)¹⁴. The nominal copula is semantically empty. So, its role is mainly grammatical connecting a DP – subject with an attributive nominal predicate, which can be a DP, as in (33), or a nominal modifier/adjective, as in (34):

- (33) (a-rgaz -in) *θ-* a-mzir.
 SG-man DEM. COP. SG-blacksmith
 ‘That man is a blacksmith.’
- (34) (a-rgaz -in) *θ-* a-wssa.
 SG-man DEM. COP. SG-old
 ‘That man is old.’

¹⁴ In Zenaga Berber, spoken in Mauritania, this copula is apparently realised as *ad-* (Taine-Cheikh 2010).

Since we are dealing with a predication construction, the lexical subject in the data above may or may not be phonetically present. This is due to the fact that Tarifit, like other Berber languages, is a pro-drop language¹⁵.

With respect to its form, the copula remains invariable regardless of the gender and number of the subject. For instance, the nominal predicate in (33)-(34) agrees with the subject – DP in number and gender but this agreement is not displayed on the copula. When the noun is in feminine, the copula displays a slight variation in form which is realized as *t-* instead of *ǧ-*, as can be seen from (35):

- (35) *ǧ-a-mka-θ* *ǧ-* *ǧawssa-θ* =/*ttawssaθ*/.
 F-SG-woman-F COP. F-SG-old-F
 ‘The woman is old.’

Because the copula and the following nominal predicate is part of the same prosodic domain, they are realized in phonology as a single phonological word: /*ttawssaθ*/ . This variation is phonologically motivated and bears no relevance to agreement. In Tarifit, two identical adjacent fricatives are always realized as the corresponding stops. In (35), the adjacent fricatives are: the copula *ǧ-* followed by the feminine prefix *ǧ-*. The combination of these morphemes is realized as: [tt]. Since the copula always procliticizes to the predicate DP it selects, it behaves more like a nominal affix and should therefore be classified with the nominal category¹⁶.

Additional evidence in support of the nominal status of the copula comes from the fact that it cannot be associated with any verbal inflection. Without pre-empting my discussion of the verbal category in ‘section 4.3’, verbs in

¹⁵ Another alternative way of realising nominal predication is by using a single bare noun, as in (i). For the bare DP to be interpreted as a copulative construction, however, it must be realised with a high-rise intonation.

- (i) *a-smmiǧ*.
 SG-cold
 ‘It is cold.’

¹⁶ Additional evidence which shows that the copula behaves more like a nominal morpheme comes from clefting, as in (i). When the predicate is clefted higher in the clause, the copula moves with it and cannot be separated from the lexical DP.

- (i) *ǧ- a-ǧβiβ,* *ig-* *i-zra.*
 COP.SG-doctor Comp 3M.SG-see.PERF
 ‘It is the doctor that he saw.’

Berber typically inflect for subject-agreement and tense/aspect. Any element which fails these two tests may not be a verb. The nominal copula never co-occurs with any of these inflections. Another morpheme which correlates with the verbal clause, as will be discussed in the relevant part, is negation. This element cannot be used in a clause headed by the copula *ǝ-*, as in (36):

- (36) ***u-** *ǝ-* *a-ǝβiβ* *ʃi*.
 NEG₁ be SG-doctor NEG₂
 ‘He is not a doctor.’

Furthermore, negation is usually associated with a particular aspectual form which appears on the main verb and is referred to in the Berber linguistic tradition as the perfective negative (Laoust 1932, Basset 1952, Penchoen 1973, Ouhalla 1988, Cadi 1990 among others). So, the ungrammaticality of (36) is not only due to the presence of negation but also due to the perfective form that goes with it and this verbal morphology cannot be marked on the copula.

Although the nominal predicate defaults to the present tense, the focus however is more on the generic attribute of the subject than tense. So, the property attributed to the subject in the sentences seen before in (33)-(35) is inherent and permanent. Nominal predicates (and adjectives) having a permanent property, unlike verbal predicates, is not unique to Berber but appears to be cross-linguistically common (Milsark 1974, Carlson 1977, Baker 2013). The generic interpretation of the nominal predicate comes from the fact that it cannot co-occur with a temporal adverb, as in (37)¹⁷:

- (37) ***ǝ-** *a-wssar* *nhara*.
 COP. SG-old today
 ‘He is old today.’

The generic versus specific reading follows from the traditional distinction between individual level versus stage level predicate (Carlson 1977). If the

¹⁷ The present reading may be allowed under more specific discourse contexts, mainly when some specific predicate nominals are used. In (i), for instance, the property of being ‘pale’ attributed to the subject may be temporary if the person looks unwell.

- (i) *ǝ-* *a-wraḵ* *nhara*.
 be SG-yellow today
 ‘He is pale today.’

predicate DP is generic as the data in (33)-(35) appear to suggest, this may raise the question of whether these two aspectual features are part of the lexical property of the nominal predicate as suggested by Kratzer (1996). The specific versus generic reading being lexical is not supported by Tarifit in that this reading is dependent on the tense/aspect marking, as in (38)-(39):

- (38) ara **Ǿ-** a-Ǿβiβ.
 PAST.PROG **COP** SG-doctor
 ‘He was a doctor.’

- (39) ataf **Ǿ-** a-Ǿβiβ.
 FUT.PROG **COP** SG-doctor
 ‘He will be a doctor.’

The two auxiliary verbs make the property attributed to the predicate DP temporary, with a beginning and an end, and therefore not permanent. If the generic feature was lexical, tense and aspect markers in these examples would not co-occur with the nominal predicate. This suggests that these features are syntactically generated under T and the generic reading in basic copulative predicates like the ones seen in (33)-(35) is simply a prototypical reading. For more on the syntax of nominal predicates in Tarifit, see El Hankari (2015).

3.2.6 Nominal Coordination

While coordinating conjunctions are generally complementizers selecting a clause, what appears to be a coordinator in Tarifit equivalent to the English ‘and’ can only select a DP and represented by the morpheme **Ǿ-** as in (40):

- (40) Ǿ-a-m ka-θ **Ǿ-** u-qzin ins.
 F-SG-woman-F **and** CS-dog 3SG.POSS
 ‘The woman and her dog.’

This coordinator cannot select a verbal clause, as can be seen from the ungrammaticality of the sentence in (41a). In a coordinating construction involving two verb clauses where a language like English uses ‘and’, Tarifit simply juxtaposes the two clauses with no overt complementiser as in (41b). If the coordinator **Ǿ-** can only join two DPs, it follows that this morpheme is part of the nominal category.

- (41) a. *i-ʃʃa **Ǿ-** i-swa.
 3M.SG-eat.PERF and 3M.SG-drink.PERF
 ‘They ate and drank.’

- b. i-ffā i-swa.
 3M.SG-eat.PERF 3M.SG-drink.PERF
 ‘He ate and drank’.

Of particular importance is that the nominal element in question is morphologically homophonous with the nominal copula, discussed in the previous section. This raises the question as to whether the two functional elements are grammatically related. This possibility is unlikely for one fundamental reason, having to do with the Construct State (CS phenomenon examined in chapter six. This marking generally arises when the noun is the subject in VSO or the object of a preposition. Interestingly, the nominal coordinator also marks the DP it selects for CS as can be seen from (40). In that sentence, the singular marker *a-* becomes *u-*, which is the expected form of the CS. Conversely, the DP does not bear this marking when it is the predicate of a nominal copula in the sentences seen in the previous section. This behavior clearly suggests that the nominal copula and the nominal coordinator are syntactically different.

The fact that the coordinator is a CS marker brings it together with prepositions, examined in ‘section 4.2.8’. There, we will see that prepositions all mark their object DP for CS. In view of this fact, there are independent reasons to question the grammatical status of what is standardly referred to as the ‘coordinating conjunct’. First, the morpheme *ǝ-* is only used to join DPs but cannot be used to join verbal clauses. This makes it behave different from true conjuncts which select a clause instead of a DP. So, *ǝ-* ‘and’ does not seem to have the characteristics of a conjunct. Its behavior makes it syntactically more like a preposition since it selects a DP and marks it for CS. The view that *ǝ-* ‘and’ may be a preposition is not exclusive to Tarifit or Berber more broadly, but this behavior is common cross-linguistically. Stassen (2000) examines the typology of ‘and’ in a vast corpus of 260 languages. He identifies many languages, which make use of ‘and’ as a preposition or case marking with a comitative meaning. This includes Basque, Mongolian, Turkish and Cairene Arabic.

3.2.7 Anaphors

The system of anaphors consists of two pronouns: the reciprocal and the reflexive. The anaphoric nature of the two pronouns comes from the fact that they cannot refer directly to an entity in the real world. Instead, they must have an antecedent DP to refer to in the clause with which these pronouns agree in number and gender. This grammatical behavior makes them nominal and should therefore be classified with the nominal category.

Starting with the reciprocal, this is expressed by the invariable morpheme *ayawya* ‘each other’ as in (42). The pronoun in that sentence indicates that the action denoted by the predicate is reciprocated by two lexical arguments, which hold the same relation to one another. It is this property which makes the reciprocal inherently plural, in the sense that the pronoun licenses two DPs.

- (42) Mina ḍ- Nunḍa ḍarʔ-nd **ajawja.**
 mina and nunḍa hug.PERF-3F.PL **each other**
 ‘Mina and Nunja hugged each other.’

In English, for instance, reciprocity is expressed by two combined morphemes ‘each’ and ‘other’ or ‘one’ and ‘other’ which undergo re-analysis becoming the reciprocal pronoun: ‘each other/one another’. In Tarifit, however, the pronoun *ayawya* is not morphologically analyzable. To the best of my knowledge, this form is not attested in any other Berber language. So, it is not clear how it is diachronically evolved. The distribution of the pronoun in the clause is fixed, in that it must follow the verb and cannot occupy any position other than the one in (42). This will be expected if the element is an anaphor; the pronoun must be in the right c-command position for it to be properly bound by its antecedent DP.

The reflexive is expressed by the basic root $\sqrt{ixf}$ which remains invariable, regardless of the gender and number of the argument it is co-indexed with. These features are encoded on the possessive pronoun that the reflexive root selects, as in (43). The possessive pronoun in that sentence is anaphoric with the lexical subject agreeing with it in gender and number.

- (43) ḍ-i-mḍar-i-n zri-nd **ixf** -nsnd
 F-PL-woman-F.PL-PL see.PERF-3F.PL **REFL** 3F.PL.POSS
 gi- ḍ-isi-θ.
 in F-mirror-F_{CS}
 ‘The women saw themselves in the mirror.’

In terms of its semantics, the reflexive root appears to have been derived from the archaic noun *ixf* ‘head’ but this lexical item as a noun has now dropped out of use and the root has a reflexive meaning only. However, the lexical noun *azɛɛif* ‘head’ can also be used to mark reflexivity as an alternative to the former root. Although *azɛɛif* ‘head’ can equally be used as common noun, and marked for number and gender, it cannot be pluralised when used as a reflexive element. This is consistent with the grammatical pattern of reflexivity in Tarifit whereby the reflexive root remains

invariable, and that agreement in gender and number are displayed on the possessive pronouns only. Another Berber language which also makes use of the same reflexive root $\sqrt{\text{ixf}}$ is Tamazight. However, this reflexive root in Tamazight inflects for the plural suffix *-n* independently of the possessive pronoun (Sadiqi 1997: 142), unlike Tarifit. This can be seen from (44)-(45):

(44) ixfw-n nsn. (Tamazight)

REFL-PL-3.M.PL.POSS

‘Themselves.’

(45) ixf-nsn. (Tarifit)

REFL-3.M.PL.POSS

‘Themselves.’

3.2.8 Prepositions

Languages which have adpositions as an alternative to the peripheral/semantic case are often seen by typologists as having an analytical case system, as opposed to languages that have synthetic case (Blake 2001). Berber and more specifically Tarifit falls within the former category, in that nouns are not morphologically marked for case. So, adpositions are the only means which signal the kind of relationship between arguments and the verb. The full preposition paradigm in Tarifit is represented as in (VII).

VII.

PREPOSITIONS	MEANING
z(ɣ)i-	ABLATIVE ‘from’
(ɓ)a-	ALLATIVE ‘to’
i-	BENEFACTIVE ‘for’
ag-	COMITATIVE ‘with’
z-	COMPARATIVE ‘from’
n-	GENITIVE ‘of’
gi-	INESSIVE ‘in’
s-	INSTRUMENT ‘with’
x-	LOCATIVE ‘on’
am-	IDENTICAL ‘as’/‘like’

In terms of their distribution, they precede their object DP they govern which makes them ‘prepositions’. Furthermore, one of the main syntactic properties that prepositions share in Tarifit is that they all mark their object

DP for CS. For instance, Guerssel (1987) reports from Tamazight, however, that at least two prepositions in that Berber language do not mark their object for CS. The study of this morphosyntactic phenomenon and a review of the literature on the Berber CS will subject to a separate investigation in chapter six. The data below in (46)-(47) illustrate the use of prepositions in a basic sentence:

- (46) *ǝ-rah* **a-** *ǝ-ǝ-mkra.*
 3F.SG-go.PERF **ALL.** F-CS-wedding
 ‘She went to the wedding.’

- (47) *ǝ-qqim* **ag-** *w-uma-s.*
 3F.SG-sit. PERF **COMIT.** CS-brother-3SG.POSS
 ‘She sat with her brother’.

Aside from selecting a lexical DP, prepositions can alternatively have an object that is pronominal. Important is that the kind of pronouns that prepositions use as their objects are the dative clitics, as can be seen from (48):

- (48) *i-ya* *y-* *-s* *i-zra.*
 3M.SG-put.PERF **INESS** 3SG.DAT PL-stone
 ‘He put stones in it.’

Since prepositions and dative pronouns are both affixal, these can phonologically combine to form a proper independent morpheme that is prosodically tonic. This is mainly due to their prosody in that prepositions are proclitics and dative pronouns are enclitics. The process whereby a proclitic and an enclitic combining to form an independent prosodic word was discussed by Inkelas (1991) from English: *in-* + *-fer* => ‘infer’, *de-* + *-ceive* => ‘deceive’ etc. This combination in Tarifit can be seen from (49), where the inessive preposition and its pronominal object can be left-dislocated as a single morphological entity:

- (49) **y-s** = [*yəs*], *ig-* *i-ya* *i-zra.*
 INESS-3SG.DAT **COMP** 3M.SG-put.PERF PL-stone
 ‘In it, he put the stones.’

The question as to why prepositions select dative clitics as their object and do not select personal pronouns may have to do with the grammatical status of the latter set. In ‘section 4.2.4.1’, we showed that personal pronouns are syntactically deficient nominals in that they cannot occur in an argument

position. If personal pronouns are not arguments, this property should prevent them from occurring as objects of prepositions which would explain the use of dative pronouns as an alternative to personal pronouns.

There are two other prepositions, which behave slightly different than the others discussed above in (VII). The first one is the genitive/possessive *n-* ‘of’, which I discussed in ‘section 4.2.4.4’. There, I showed that this preposition combines with a dative clitic which then undergoes reanalysis becoming an independent possessive pronoun as in (50):

- (50) a-xxam nsn.
 SG-room 3M.PL.POSS
 ‘Their room.’

The second preposition which displays a different behaviour than other common prepositions is the dative *i-* ‘to’. In (51), this preposition selects a lexical DP which it also marks for CS like other prepositions.

- (51) ð-dʒf **i- w-argaz ins.**
 3F.SG-divorce.PERF **DAT CS-man 3SG.POSS**
 ‘She divorced her husband.’

When the object is pronominal, however, the dative preposition is not maintained as in (52). Instead, the whole dative complex [P + pronoun]_{PP} is substituted using the dative clitic. In other words, the dative pronoun in (52) replaces the whole lexical PP, and that the dative preposition cannot cooccur with the dative pronoun unlike other prepositions. To the best of my knowledge, the behaviour of this preposition is also shared by other major studied Berber languages. The reason behind this difference is not clear and I leave this open to future research.

- (52) ð-dʒf **-as.**
 3F.SG-divorce.PERF **3SG.DAT**
 ‘She divorced him.’

Prepositions also display a systematic behavior having to do with their displacement in the clause. When the object of the preposition is lexical, the usual order applies as in (53). When the sentence is interrogative and the DP becomes a *wh-* operator, as in (54), the preposition must move with it and cannot be stranded lower in the clause. In this sense, Tarifit imposes a ban on preposition stranding possibly due to their affixal property.

- (53) i-ya aman g- w-dduh.
 3M.SG-do.PERF water INNESS- CS-jar
 ‘He put water in the jar.’

- (54) **mi- gi-** i-ya aman ~~g-~~ ~~mi?~~
 WH INNESS 3M.SG-do.PERF water ~~INNESS-WH~~
 ‘What did he put water in?’

Furthermore, prepositions have been previously described as special clitics like object and dative pronouns (Dell and Elmedlaoui 1991, Ouhalla 1988; 2005a). The data in (55a) has a complement which involves a preposition selecting a lexical DP. When the object of the preposition is pronominal (i.e. dative clitic), as in (55b), the preposition and the dative pronoun do not remain in-situ but must move to a position preceding the main verb due to the presence of the future morpheme *að-*. So, we have evidence that the preposition displays clitic movement like object and dative pronouns discussed earlier. The topic of clitics and cliticization in Tarifit is examined in chapter eight. There, I show that prepositions are optional clitics in that they do not always display clitic properties.

- (55) a. *að-* i-γ aman g- w-dduh.
 FUT.3M.SG-do water INESS, CS-jar
 ‘He will put water in the jar.’
 b. *að-* **g-s** i-γ aman ~~g-s-~~
 FUT **in-it** 3M.SG-do water **in-it**
 ‘He will put water in it.’

Before I conclude this section on prepositions, two additional elements warrant some attention in that they bear some similarities to prepositions. This has to do with *bu-* and *mu-* represented in (56) and (57), respectively:

- (56) **b-u-** ð-ð-faʃi-θ.
 M-POSS F-CS-hat-F
 ‘The one_M with the hat.’
 (57) **m-u-** ð-ð-çmbuʃ-θ.
 F-POSS F-CS-shawl-F
 ‘The one_F with the shawl.’

These two elements are also attested in other Berber languages, including Tagbaylit (Chaker 1983) and Tashelhit (Dell and Jebbour 1995). Two main properties make *bu-* and *mu-* behave like prepositions: (1) they select a DP

as their object and subsequently mark it for CS, and (2) they involve possession bearing in mind that this notion is expressed by a preposition in Berber. However, the data also show that these morphemes are marked for gender, which is a property of nouns. In (56), masculine is marked with *b-* and in (57) feminine is marked with *m-*. The other morpheme *-u* remains invariable¹⁸. Chaker points out that these elements involve possession but did not formally categorize them as parts of speech. Dell and Jebbour refer to them as ‘empty nouns’ and glossed them in French as “ce lui qu’a...” (*the one that has...*) (Dell and Jebbour 1995: 219). El Hankari (2014) argues from Tarifit that *bu-* and *mu-* are morphologically complex morphemes, which consists of the gender marking morpheme *b-/m-* referring to a phonetically deleted DP and *-u-* whose grammatical function is a preposition. This view is maintained in this book. The data above in (56)-(57) show that the morphemes which alternate between masculine and feminine are *b-* and *m-*, respectively. If gender is neutralized and identified separately, we then have evidence that the two elements are morphologically decomposable. That way, the invariable morpheme *-u-* can be argued to be associated with the genitive meaning since that meaning is maintained, regardless of gender. Furthermore, the logical meaning of the two elements refers to a person/possessor that is only understood from the context. In view of this, it can then be argued that gender is associated with an elided/phonetically empty possessor/DP as schematized in (58):

(58) [_{DP} D, *m-/b-* [_{NP} N $\emptyset$] [_{PP} P, *-u-*] [_{DP} [_{NP} N_{CS}]]]]].

The DP in that structure selects a PP headed by the preposition *-u-* with a genitive meaning, which in turn selects a DP/possessum and subsequently marks it for CS. Under this view, analyzing *-u-* as a preposition will be consistent with the fact that genitive is expressed by a preposition in Tarifit. This in turn predicts the general typology of prepositions in Tarifit, which all mark their DP for CS.

The hypothesis that associates *mu/bu-* with a preposition still leaves us with a problem having to do with a particular property that is not necessarily shared with other prepositions. The two elements can select a lexical DP only as their object, but this DP cannot be substituted with a pronoun like other prepositions. This can be seen from (59):

¹⁸ Note that the two elements have also a common idiomatic use, mainly when the possessum refers to some part of the body. In that case, the DP acquires a negative connotation: *b/mu-* + DP_{mouth/nose} = ‘someone with an ugly mouth/nose’.

- (59) ***m-u-** -s.
 F-POSS 3.SG.DAT
 ‘The one_F with it.’

The configuration above is like (56) and (57) seen earlier except that the object in (59) is realized as a pronoun, which makes the sentence ungrammatical. By contrast, other prepositions as seen earlier have the option of selecting a lexical DP or a pronoun. It is not clear what prevents these two elements from selecting a pronoun, especially that clitic pronouns (object or dative) are known to be used as substitutes for a lexical DP. I leave this question open for future research.

3.3 The Verbal Category

The verbal category is mainly represented by verbs. One of the lexical roots discussed in the nominal part is $\sqrt{\text{wsa}}$ ‘old’. There, we showed that this lexical element acquires a nominal category when it inflects for number and gender. The same root can be interpreted as a verb when combined with the relevant verbal inflections, as in (60):

- (60) a-rgaz **i-wsa**.
 SG-man **3M.SG-old.PERF**
 ‘The man is old.’

The lexical element is marked for aspect (perfective) and subject agreement. For a given word to be a verb, it must appear with these two morphemes. Lexical roots that are generally found as nominal modifiers, like the one used in (60), become stative verbs when used as verbal predicates. This alternation between the nouns and verbs, as discussed in the previous chapter, is straightforwardly accounted for if the categorial status of these lexical roots is decided in the syntax, in accordance with the DM framework. So, the lexical root is interpreted as a verb when it appears with verbal inflections and as a noun when it appears with nominal inflections. As shown in the previous chapter, this approach saves us from redundantly listing the lexical root as both a noun and a verb like zero derivation in English.

3.3.1 Subject agreement

Although this set of pronouns appears to be morphologically like the object and dative pronouns, I decided to discuss them in the verbal part since they behave grammatically different. In ‘section 4.2.4’, we saw that object and dative clitics may be used as substitutes for lexical DPs. Furthermore, these

pronouns are clitics in that they undergo movement from a position following the verb to a position preceding the verb. The morphemes referring to the subject do not share any of these properties. First, their presence is not optional but obligatorily required in the sense that no verbal clause may be grammatical without this inflection, including verbs used in non-tensed clauses. Secondly, this inflection has a fixed distribution and therefore does not undergo clitic movement, as can be seen from (61):

- (61) a. **ǫ-çsi-n.**
3F.SG-take.PERF-3M.PL.OBJ
 ‘She took them.’
 b. **að- n ǫ-çsi.**
FUT -3M.PL.OBJ 3F.SG-take.PERF
 ‘She will take them.’

In (61a), the subject pronoun appears as a proclitic to the verb and the object pronoun is an enclitic. When a preverb is used and represented by the future tense, as in (61b), the presence of this tense morpheme triggers the movement of the clitic object to the left of the verb as seen earlier. However, this operation does not apply to the pronominal subject. In view of this fact, subject pronouns behave as agreement markers on the verb rather than arguments. In this sense, they are verbal inflections and should therefore be part of the verbal category. The fact that subject agreement is required on any verb in the clause makes the presence of the lexical subject optional, which in turn makes Tarifit a pro-drop language. It is important to note that Tarifit has such a robust pro-drop system that a clause without the lexical subject is preferred. The complete paradigm representing subject pronouns is included in (VIII):

VIII.

PERSON	SING		PL	
	MASC	FEM	MASC	FEM
1 st		-ɣ		n-
2 nd		ǫ- ǫ	ǫ- -m	ǫ- -mǫ
3 rd	i-	ǫ-	-n	-nǫ

Since these morphemes refer to the argument relation between the verb and the subject, they encode information on person, gender, number, and case. Their distribution around the verb is dependent on person and number. For instance, the 1st person singular is a suffix, but the plural form is a prefix. Similar morphology may be noticed with the 3rd person; singular is realised

as a prefix and plural as a suffix. The 2nd person has two copies of the same agreement feature, occupying the prefix and suffix position. The morphology of these pronominal set displays some predictability regarding mainly number and gender marking. So, the 1st person and 2nd person-singular do not make gender distinction. The 1st person not making gender distinction was also observed with personal, object and dative pronouns. The 2nd person plural is marked by ‘*θ- -m*’, to which (the underlined) *-d* is added to mark feminine. This suggests that masculine is the unmarked form, which was also observed with lexical nouns and other pronouns. A similar pattern may be noticed with the 3rd person plural whose base form is *-n*. The morpheme *-d* is then added to mark feminine, which also suggests that masculine is the unmarked form.

3.3.2 Aspect

Verbs in Tarifit and Berber more broadly are generally argued to be marked for aspect but have no tense morphology. Four aspectual forms are identified: (1) the aorist, (2) perfective, (3) imperfective and (4) a perfective form that is exclusive to negation. These forms are all attested in the major studied Berber languages (Laoust 1932, Basset 1952, Penchoen 1973, Abdelmasih 1969, Chaker 1983, Ouhalla 1988, Ouali 2011 among others). The paradigms representing the system of aspect are included in (IX):

IX.

verb	AORIST	PERF	IMPERF	PERF-NEG
√f: ‘eat’	ʃ	ʃa	təʃ = /tət/	ʃi
√nb: ‘kill’	nəʋ	nəʋa	nəʋəʋ = /nəq/	nəi
√km: ‘cover’	kməs	kməs	kəmməs	kmis

What is referred to as ‘aorist’ is the neutral unmarked form of the verb, which is found in the imperative or when the lexical verb is selected by a functional verb that encodes tense/aspect. Perfective is always manifested through vocalic alternation, but this morphology is not always concatenative. For instance, the first two verbs in (IX) manifest their perfective form using *-a* but this morpheme is not maintained with the verb √kməs ‘cover’. In fact, this verb displays no distinction in form between the aorist and the perfective. The lack of distinction between the two aspects applies to many other verbs. It is not clear whether this lack of distinction has to do with the phonology of the verb root or due to some diachronic change where the distinction between the aorist and the perfective is

possibly diminishing. The possibility of a diachronic shift suggests itself strongly when examining some other Berber languages such as Taqbaylit. Chaker (1983) reports that the aorist form in that variety is not used anymore and its remnants are only found in the oral tradition, such as poetry. As for the imperfective, many verbs realize this feature using the (regular) prefix *t-* but the same feature may be realized through vocalic marking¹⁹. As for the perfective negative, also known as ‘irrealis’, this feature is represented by *i* which generally shows up on the ultimate syllable of the lexical root. I show later in ‘section 4.3.4’, dealing with negation, that there are verbs that do not display overt marking of the perfective negative. Since verb roots have no tense marking as such, the perfective and imperfective have the canonical or prototypical interpretation of past and present, respectively, as can be seen in (62):

- (62) a. *ǫ-zra* *aba-s*.
 3F.SG-see.PERF father-3SG.POSS
 ‘She saw her father.’
- b. *ǫ-zar* *aba-s*
 3F.SG-see.IMPERF father-3SG.POSS
 ‘She sees her father.’

In (62a), the verb is in the perfective and therefore interpreted as past tense. Similarly, the verb in (62b) is in the imperfective and therefore interpreted as present. Note that the present tense is always progressive since it is the prototypical interpretation of the imperfective, which refers to an event in progress. This may also have a habitual reading.

Of particular importance is the fact that the prototypical interpretation of the perfective and imperfective discussed above only applies to eventive/action verbs, in Tarifit. These two aspectual forms have a different interpretation when the main verb is stative or does not involve any event or action. Consider the data below in (63):

- (63) a. *a-wriɖʒi* *i-mmuθ*.
 SG-spider 3M.SG-die.PERF
 ‘The spider is dead.’

¹⁹ Some verbs also realise the imperfective through vocalic-marking; example: *zar* ‘see.IMPERF’ ↔ *zra* ‘see.PERF’.

- b. a-wridʒi i-t-mtta.
 SG-spider 3M.SG-IMPERF-die
 ‘The spider is dying.’

Unlike (62a), the perfective form in (63a) does not necessarily default to past tense but to present tense. However, this is simply the prototypical interpretation in that the perfective here has a generic reading and time reference is not the focus of this proposition. The generic interpretation is due to the nature of stative verbs, which are viewed intuitively as referring to a situation that is static and involves no change or dynamicity. So, a static situation is more compatible with genericity than its orientation in time. However, and because state situations can also have a beginning and an end, this reading is obtained by the imperfective which is interpreted as present and progressive, as in (63b). If the perfective and imperfective are both interpreted as present, how do stative verbs then realize their past tense? I show in the next section that this tense is expressed using the additional function verb: *ra* → ‘past-imperfective’.

3.3.3 Function verbs

In Tarifit, function verbs consist of three morphemes. These have two main properties which makes them functional rather than lexical verbs. First, they have only formal grammatical features (tense/aspect) but devoid of any semantic meaning²⁰. Secondly, they cannot be used alone in the clause but require the support of a proper lexical verb. The set of function verbs in Tarifit are represented as in (X):

X.

FORMS	ASPECT/TENSE
að-	FUTURE
-ra-	PAST-IMPERFECTIVE
ataf	FUTURE-IMPERFECTIVE

Function verbs in a language like English have a present and a past form: ‘can’ ↔ ‘could’, ‘will’ ↔ ‘would’, etc. Conversely, the form of the three

²⁰ The fact that these elements have no semantic meaning rules out the possibility that they might be adverbs modifying the verb. As I show in ‘section 4.3.5’, adverbs are known to have semantic/encyclopaedic information but encode no grammatical features. There, I also show that adverbs in Tarifit are quite mobile in the clause whereas function verbs have a fixed position; they always precede the main verb.

function verbs in Tarifit remains invariable and defaults to whatever tense/aspect these verbs convey. As can be seen from the table in (X), *að-* is a future marker whereas *-ra-* and *ataf* mark past-imperfective and future-imperfective, respectively. The morpheme *-ra-* roughly corresponds to the English ‘was + V-ing’ and *ataf* to ‘will be + V-ing’ and may also be used to express an irrealis event.

3.3.3.1 The future: ‘*að-*’

This element is exclusively used to mark the future tense. The main verb remains in the neutral form when it is selected by *að-*, which is referred to in the Berber linguistic tradition as the aorist. An example illustrating the use of *að-* → [FUT] in a basic sentence can be seen from (64):

- (64) *að-* uyur-n ðuðffa.
 FUT go-3M.PL tomorrow
 ‘They will go tomorrow.’

The fact this morpheme co-occurs with the adverb *ðuðffa* ‘tomorrow’ is a clear indication that it is indeed a future tense marker. So, the future marker is required when the adverb in (64) is present. This element is found as *ad* in Taqbaylit (Chaker 1983) and Tamazight of Ait Ayache (Abdelmasih 1969), as *ma(d)* in Tamazight of Ayt Hssan (Sadiqi 1986) and as *dað* in Quebliyeen Tamazight (Ouali 2011).

Before examining the other function verbs, I would like to discuss another interesting use of *að-* in Tarifit relative to some specific clauses that are equivalent to the non-tensed English *want-to*, as in (65):

- (65) arzzu-n *að-* uyur-n.
 want.IMPERF-3M.PL FUT run.away-3.M.PL
 ‘They want to go.’

The fact that *að-* in that sentence selects an embedded clause raises the question as to whether this morpheme is a non-finite marker, equivalent to the English ‘to’. This claim was indeed made for Tamazight by Ouali (2011), based on the data in (66)-(697):

- (66) rix *að-* ruħəx
 want.PER.1S to-go.AOR.1S
 ‘I want to go.’

(Ouali 2011: 46)

- (67) *aǎ i-ddu
 FUT 3M.SG.leave.AOR
 'He will leave.'

(Ouali 2011: 44)

In (66), the morpheme *aǎ-* selects the verb of the embedded clause like the English *want-to*. The use of the same morpheme in a root tensed clause is ruled out in Tamazight, as in (67). If *aǎ*-clauses are embedded and non-tensed, as Ouali argues, the ungrammaticality of (67) would then be expected since these kinds of clauses cannot occur independently but need the support of a main clause. For this reason, Ouali concludes that *aǎ-* is a non-finite marker. This grammatical property according to him holds for other Tamazight varieties he discusses and Tarifit. Similarly, Sadiqi (1986) also claims that Tamazight of Ayt Hssan has non-tensed clauses as can be seen from (68). The non-tensed form is associated with the verb of the embedded clause which is selected by *a-*.

- (68) i- ra hmad a t -ddu fadma.
 he wanted Ahmed to she go Fadma
 'Ahmed wanted Fadma to go.'

(Sadiqi 1986: 120)

Based on the fact that *aǎ-* in Tarifit is found in root clauses which clearly expresses future tense, as seen in (62), and that the same morpheme is also found in clauses that are considered as non-tensed, as seen (67), El Hankari (2013) argues that Tarifit does not have non-tensed clauses since these are marked by the future morpheme *aǎ-*. A more plausible hypothesis, however, is to argue that Tarifit has non-tensed clauses. So, the presence of *aǎ-* in a clause like (65) is because this morpheme still marks non-tensed clauses, but its form is simply homophonous with the future marker. This would bring Tarifit closer to other Berber languages, such as the two Tamazight varieties discussed above. For instance, Ouali (2011) shows that the future tense in the Tamazight variety he investigated is marked by *daǎ* whereas the morpheme marking non-tensed clauses is manifested by *aǎ-*. So, the hypothesis that these two morphemes in Tarifit are marked by the homophonous form *aǎ-* could be due to the loss of the first consonant of the future morpheme *daǎ*, as found in Tamazight. This would be unsurprising knowing that Tarifit is one of the most innovative Berber languages.

3.3.3.2 The Past imperfective: ‘(a)ra’

In Tarifit, *(a)ra* is specified for tense and aspect. This element is found in Taqbaylit (Chaker 1983) and Quebliyeen Tamazight (Ouali 2011) as *(a)la*, and in Tamazight of Ayt Hssan as *ar* (Sadiqi 1986). The proto-typical interpretation of *(a)ra* in Tarifit is past and imperfective. So, the occurrence of this function verb with the main lexical verb denotes a past event that is conceived over an ongoing time frame, as in (69). This combination may also be interpreted as past habitual as in (70):

- (69) *ara ssak-nd aruð.*
 PST.IMPERF buy.IMPERF-3F.PL clothes
 ‘They were buying clothes.’

- (70) *ara i-xddm gi lhoceima.*
 PST.HAB 3M.SG-work.IMPERF in Alhoceima
 ‘He was working in Alhoceima City.’

In some complex clauses involving two verbs in the past, *(a)ra* can mark anterior or remote past. In (71), the event denoted by the main clause involving *(a)ra* occurs prior to the past event that is part of the embedded clause. Although this function verb is attested in other Berber languages, as mentioned above, it appears that its use is subject to some parametric variation. In Tamazight and Taqbaylit, for instance, *(a)ra* is used as present/habitual-progressive marker (see the sources cited above).

- (71) *ara uyur-n wami n-xðr.*
 PST.IMPERF go-3M.PL when 1PL-arrive
 ‘They had (already) gone by the time we arrived.’

In my discussion of the perfective versus imperfective in ‘section 4.3.2’, I showed that these aspectual forms are interpreted as past and present, respectively, when the verb is eventive. When the verb is stative involving no event or action, the perfective is interpreted as present and the imperfective as present-progressive. There, it was also observed that the perfective form is in fact generic and the present tense is simply the logical/prototypical interpretation of the sentence. In view of these facts, I then raised the question of how these verbs realise their past tense; this is when *(a)ra* comes into play. Stative verbs mark their past using *(a)ra*, as in (72):

- (72) *ara* *ǫ-hrəç* *inhar-nni*.
 PST.IMPERF 3F.SG-sick day-DEM
 ‘She was sick that day’.

Without (*a*)*ra*, the stative verb in the perfective form would be generic but the introduction of this function verb makes the ‘state of being sick’ temporary with a beginning and an end which is further reinforced by the presence of the temporal adverb. This morpheme may also refer to a progressive-habitual situation in the past when combined with a stative verb in the imperfective form, as in (73):

- (73) *ara* *ǫ-hrrəç* =/hɔʒəç/ *lbda*.
 PST.IMPERF 3F.SG-sick.IMPER always
 ‘She used to be always sick’.

3.3.3.3 *The future imperfective: ‘ataf’*

The morpheme *ataf* shares with (*a*)*ra* the imperfective feature but differs regarding tense in that it is specified for future as in (74):

- (74) *ataf* *t-azɪ-n*.
 FUT.IMPERF IMPERF-run-3M.PL
 ‘They will be running.’

The co-occurrence of *ataf* with the main verb in that sentence has the function of referring to a future event that is progressive. Note that the ongoing event is also expressed by the imperfective prefix *t-* on the main verb. In other words, *ataf* requires the verb to be in the imperfective. So, we can now see why *að-* → future cannot be used for this specific aspectual situation (i.e. future-imperfective). This is because *að-* can only select a verb that is in the neutral/aorist form, as discussed previously, and that form is not compatible with the imperfective. Alternatively, Tarifit has a separate morpheme (i.e. *ataf*) at its disposal that can express future situations that are ongoing. This element can also combine with a verb in the perfective form, as in (75). This combination makes the event denoted by the predicate refer to an irrealis or hypothetical situation in the future.

- (75) *ataf* *uyur-n* *aʃmi* *ǫin* *ʁa* *iri-n*.
 FUT.IMPERF go.PERF-3M.PL when there FUT be-3M.PL
 ‘They would be gone by the time they were there.’

To the best of my knowledge, Tarifit is the only variety which makes use of this morpheme. So, it is not clear how this function verb diachronically

evolved. In Tamazight, for instance, this tense and aspect situation is not expressed by a single morpheme, as in Tarifit, but by a combination of tense and aspect markers. An example is provided below from Tamazight as in (76):

- (76) *dað ilin la təddun lwashun.*
 FUT BE-AOR.3P PRES go-IMP.3P children
 ‘The children will be leaving.’

Ouali (2011: 56)

In that sentence, the future morpheme *dað* selects the copula *ili* ‘be’, which in turn selects the main verb in the present form. The same sentence in Tarifit is ruled out as in (77). The grammatical sentence equivalent to (76) in Tarifit is represented as in (78)²¹:

- (77) **i-hamuɣ-n að- iri-n ɣɣur-n.*
 PL-child-PL FUT be-3M.PL go.IMPERF-3M.PL
 ‘The children will be leaving.’

- (78) *i-hamuɣ-n ataf ɣɣur-n /gurn/.*
 PL-child-PL FUT.IMPERF go.IMPERF
 ‘The children will be going.’

²¹ Note that the sentence in (76) involves the future *dað* and two verbs that encode subject agreement: *ilin* ‘be’ and *təddun* ‘go’. The fact that the two verbs are both marked for tense and subject agreement led Ouali to conclude that constructions like these involve two TP projections. In his review of Ouali (2011), El Hankari (2013) shows that this property is not shared by Tarifit, as can be seen (77). The ungrammaticality of that sentence is mainly due to the co-occurrence of the copula *iri* ‘be’ and *ɣɣur* ‘go’. In Tarifit, the copula in (77) is used as a lexical verb since it inflects for tense and subject agreement, but that position must be filled with a function verb. Interestingly, El Hankari (2015) shows that the copula in Tarifit can select a stative verb as in (i). Under a hypothesis, which argues that stative verbs are small clauses (SC) that are not tensed, El Hankari argues that the copula can only select SC/untensed clauses. So, the reason why it cannot select an eventive verb like (77), according to him, is attributed to the fact that these occur in clauses that are tensed.

- (i) *að iri-n mɛaɣ-n.*
 FUT be-3M.PL big.PERF-3M.PL
 ‘They will be big.’

Before closing the discussion of function verbs, one last point is of note having to do with syntactic selection. All the auxiliaries discussed share the post-verbal position. That is, these auxiliaries always select the main verb. This property is generally shared by other major studied Berber language.

3.3.4 Negation

Negation in Tarifit is expressed using two discontinuous particles: *u-* and */i*, as in (81)²². So, the first negative morpheme selects the verb and the second immediately follows. This distribution is fixed and no order other than the one represented in (79) is permitted²³.

- (79) **u-** **ǧ-zri** **/i** i-nβziw-n.
 NEG₁ 3F.SG-see.PERF.NEG NEG₂ PL-guest-PL
 ‘She didn’t see the guests.’

As noted in ‘section 4.3.2’ on tense and aspect, negation correlates with a perfective form marked on the main verb and represented here by the highlighted vowel *-i*. The negated verb taking special aspect or mood is cross-linguistically common. In the case of Tarifit, however, this marking is not displayed by all the verbs. This can be seen from the set of verbs in (80):

²² Many Berber varieties such as Tamazight, Taqbaylit, Chaoui and Tashelhit have the first negative particle realized as *ur*. In the variety under investigation, the [r] is generally vocalized following a vowel due to a phonological innovation that applies across the board as discussed in chapter two.

²³ Tamazight appears to be an exception, in that it has two available options in realising negation. The first one is done in the usual fashion by simply placing the first particle to the left of the verb and the second immediately follows (i). The second option, interestingly, places the second particle in a position preceding the first one as in (ii).

- (i) **ur** uγəx **sha** ləkθəb.
 Neg1 1s-bought.PERF-1s **Neg2** book
 ‘I did not buy the book.’
- (ii) **sha-ur** dix γir-s.
 Neg2-Neg1 go.neg.PER.1sto-him
 ‘I didn’t go to him/I didn’t visit him’

(80)

PERF	PERF-NEG	MEANING
mmuθ	mmuθ	‘die’
nnuqa	nnuqa	‘turn’
nnuɣ	nnuɣ	‘strand’
sɣuj	sɣuj	‘weep’
uɣu	uɣu	‘go’

The verbs in (80) are among many others that do not make any distinction in form between the perfective and the perfective negative. The fact that not all verbs display the perfective negative marking was also reported by Chaker (1983) from Taqbaylit. So, it is not clear whether this is an issue having to do with the phonological form of the lexical root, where verbs like the ones in (80) do not take an overt perfective negative marking or this is due to a diachronic shift where this marking is diminishing. So, I leave this issue open for future research.

It is important to note that the second negator in basic clauses is a requirement and not an option. Tarifit requiring two negative particles was also pointed out by Cadi (1990). The double negative marking was also reported from other Berber languages, including Taqbaylit (Chaker 1983), Chaoui (Nait-Zerrad 1994) and Tamazight (Ouali 2011). As for the varieties which mark their negation using one morpheme, this includes Siwi, Tashelhit, Tuareg and Zenaga (Mettouchi 2009).

Even though the basic clause in Tarifit generally requires two negative markers, there are cases where the second particle is not used. Some of these environments were also reported from other Berber languages, which use double negation (see sources cited above). The first case involves a sentence with two coordinated/conjoined clauses, as in (81). In that sentence, it appears that the function of the second negator which completes the negation chain is filled by the negation of the second coordinated clause.

- (81) u- i-ɣfi u- i-swi.
 NEG₁ 3m.sg-eat.PERF NEG₁ 3m.sg-eat.PERF
 ‘He didn’t eat and didn’t drink either.’

The second case in which */i* is not used is when the DP following the verb is a pronoun, which carries a negative meaning as in (82)-(83). Aside from their negative meaning, these pronouns behave syntactically like */i* in that

their position is fixed²⁴. This suggests that they have the same function as /i/, which explains the complementary distribution between these pronouns and the second negator.

- (82) u- i-ʃʃi urah/walu.
 NEG₁ 3m.sg-eat.PERF nothing
 ‘He didn’t eat anything.’

- (83) u- i-uʃu həd.
 NEG₁ 3m.sg-go nobody
 ‘Nobody left.’

Another element which may fill the second negative position is the highlighted negative pronoun *uraðiʒ* ‘no-one’ in (84):

- (84) u- i-uʃu uraðiʒ.
 NEG₁ 3M.SG-go no.one
 ‘No one left.’

This pronoun behaves differently from the elements discussed above in (82)–(83) in two ways. First, *uraðiʒ* is morphologically complex, consisting of the first negative particle *u(r)*, the nominal copula *ð-*, and *iʒ* ‘one’ as in (84). The combination of these morphemes undergoes reanalysis, yielding a meaning equivalent to ‘not even one’. Another property, which sets this pronoun apart from the ones discussed above, is that *uraðiʒ* ‘no-one’ can occupy the initial position of the clause as in (85):

- (85) uraðiʒ u- i-uʃu.
 no.one NEG₁ 3M.SG-go
 ‘No one left.’

The displacement of this pronoun appears to be due to its argument status. In other words, it behaves as the subject and therefore can be moved to a pre-verbal position. The argument function of *uraðiʒ* ‘no.one’ may be due the presence of *iʒ* ‘one’, which is a DP since it refers to a phonetically elided lexical noun understood from the context. This can be seen from the sentence in (86) where *iʒ* ‘one’ can be substituted for a lexical DP. The negative + DP complex can occupy a post-verbal position, as (86), or may

²⁴ Unlike /i/, the negative pronouns in (82) can be used alone in an elliptical VP supplied by the context as an answer to whether someone ate anything.

move higher to a pre-verbal position, as in (87), and therefore behaving like a preposed subject.

- (86) u- i-nɣim ur-(a) ǝ- a-qzin.
 NEG₁ 3M.SG-escape.PERF.NEG NEG₂ COP SG-dog
 ‘No dog escaped.’

- (87) ur-(a) ǝ- a-qzin u- i-nɣim.
 NEG₁ COP SG-dog NEG₂ 3M.SG-escape.PERF.NEG
 ‘No dog escaped.’

There appears to be an interesting parametric variation in the way the negative pronoun is used. For instance, Ouali shows that the equivalent of (85) in Tamazight triggers what is known in Berber as the Anti-agreement discussed earlier. This can be seen from the Tamazight sentence in (88):

- (88) agidɣ ur iddin.
 no one Neg1 go.PER.neg.**Part**

(Ouali 2011: 159)

In the case of Tarifit, we have seen in (85) that it does not exhibit the invariable participle marking but displays the usual subject agreement on the verb. In his micro-comparative discussion of Tamazight and Tarifit, El Hankari (2013) hypothesises that this may simply be the manifestation of the fact that Tarifit permits the SVO order more liberally than the other Berber languages (Ouhalla 1988), possibly as a result of a shift to a topic-comment structure as will be argued in chapter seven.

Another element, which can be used as a substitute for *fi* is the negative adverb *ɣmmas* ‘never’. This element appears to behave like *uraǝiɣ* ‘no.one’, in that it can occur following the verb, as in (89), or preceding it, as in (90):

- (89) u- i-xǝim ɣmmas.
 NEG₁ 3M.SG-work.PERF.NEG never
 ‘He never worked.’

- (90) ɣmmas u- i-xǝim.
 never NEG₁ 3M.SG-work.PERF.NEG
 ‘He never worked.’

This is mainly because *ɣmmas* ‘never’ has an adverbial function. In fact, the mobility of this negative element supports its adverbial function. In the next

section on adverbs, I show that one of the main properties of these elements is that they have a flexible distribution in the clause.

One last environment where */i* does not appear is the configuration involving the extraction of the subject, as in (91):

- (91) a-frux n- u- i-ttis-n g- w-xxam.
 SG-boy COMP NEG₁ 3SG-sleep.PART in CS-room
 ‘The boy who did not sleep in the room.’

In that sentence, there is no element representing the second negative particle compared to the previously discussed sentences where a pronoun or an adverb with a negative meaning makes up for the missing */i*. The missing of the second negative particle in (91) remains unclear and indicates that the relevant facts surrounding the exact status of the post-verbal negation are more complex than they initially appear.

3.3.5 Adverbs

Unlike other parts of speech, adverbs in Tarifit carry no specific morphology through which they can be identified as an independent word class. Some of the elements representing the limited set of adverbs are included in (92):

(92)

<i>ʔrajn</i>	‘nearly’
<i>lbda</i>	‘always’
<i>qqaʔ(a)</i>	‘completely’
<i>ruxa</i>	‘now’
<i>ðəkkja</i>	‘quickly’

These are bare roots, which can only be categorized by their use in the syntax. The fact that they are exclusive to a verb clause makes them part of the verbal category. Evidence that these elements are indeed adverbs is that their contribution to the clause is mainly semantic, modifying the verb or the VP in degree, manner, time etc. Furthermore, their presence in the clause is optional which makes them verbal adjuncts and therefore not directly relevant to argument structure. An illustration of how adverbs are used in the clause can be seen from the data below in (93):

- (95) i-rah i-ggu i-t-azzər.
 3M.SG-go.PERF 3M.SG-walk.IMPERF 3M.SG- IMPERF-run
 ‘He left quickly/running.’

The main clause in (95) is headed by the verb *rah* ‘go’, which then selects two additional clauses. However, the semantic contribution of the two clauses is the same as the highlighted adverbial elements in (93)-(94) in that they modify the main verb *rah* ‘go’ in degree. After examining locative adverbs, I show that scrambling with root adverbs seen in (92) is much more flexible than adverbial phrases and locatives.

3.3.5.1 Adverbial Locatives

Locatives are specified for location and distance relative to the speaker and addressee. The distance feature consists of three levels of orientation that are identical to the ones found with demonstratives discussed in ‘section 4.2.4.5’. These are represented, as in (XI):

XI.

DISTANCE	FORM	MEANING
PROXIMATE	ǫa	‘close to speaker & addressee’
MEDIUM	ǫin(ni)	‘close to addressee & far from speaker’
DISTANT	ǫiha	‘far from both addressee & speaker’

The morphemes which spell out the distance feature found with demonstratives are also maintained, except that this set of locatives has the additional augmented form /ǫ/ in the initial position, which allows them to be independent morphemes. I should also point out that these locatives display clitic properties for the simple reason that they undergo clitic movement to a position preceding the verb (Dell and Elmedlaoui 1985, Ouhalla 2005a). The topic of clitics is examined in chapter eight. Like other adverbial elements discussed above, the grammatical function of these locatives is to modify the verb in distance and location, as in (96):

- (96) qim-n ǫa.
 sit-PERF-3M.PL LOC
 ‘They sat here.’

As locative adverbs, this meaning can alternatively be expressed using a locative PP as in (97). The phrasal element has the same grammatical

function, in that it provides additional information about the location of the predicate²⁵.

- (97) qim-n g- w-xxam.
 sit-PERF-3M.PL in CS-room
 ‘They sat in the room.’

Before concluding this section, an issue having to do with the distribution of the adverbial elements discussed needs some attention. Earlier, I pointed out that scrambling with root adverbs is flexible, as seen in (93). Conversely, this property is not necessarily shared by other adverbials. Earlier in (94), we saw that the adverbial PP may occupy a post-verbal position. However, its insertion at the beginning of the clause yields an ungrammatical sentence as in (98):

- (98) ?s- u-fafi ð-çsi a-qrab ins.
 withCS-speed 3F.SG-take.PERF SG-bag 3SG.POSS
 ‘She quickly took her bag.’

This alternation is allowed only if the PP is left-dislocated from the rest of the clause using a comma. Similarly, the locative adverb cannot be used in clause initial position as in (99):

- (99) *ða qim-n.
 LOC sit-PERF-3M.PL
 ‘Here they sat.’

This typology points to a contrast between adverb roots that are flexible, on the one hand, and other adverbial elements whose distribution is more constrained, on the other. Sets of adverbs occupying different positions in

²⁵ This set of locatives can also undergo re-analysis and subsequently used as copulative predicates (El Hankari 2015), as in (i):

- (i) ðin iz n- ð-ə-mka-θ nhara.
 thereone one of F-CS-woman-F today
 ‘There is one/a woman today.’

The predicate nature of the locative in (i) comes from the fact that it is marked for tense and co-occurs with a temporal adverb. As a predicate, the locative does not co-occur with the verb and must always be in the initial position of the clause. This makes it behave like a verbal predicate equivalent to the English ‘be’. The re-analysis of these locatives and prepositions becoming copula predicates is cross-linguistically common (Freeze 1992, Kayne 2008 and Benmamoun 2008).

the clause, is not uncommon. For instance, English has adverbs that are used in the preverbal position and others in the post-verbal position. The former adverbs are generally argued to be modifiers inside the IP whereas the latter are modifiers inside the VP. If all adverbial elements other than adverb roots can only be positioned following the verb, in Tarifit, this suggests that they are modifiers within the VP and therefore VP-adverbs. Conversely, adverb roots may be IP or VP-adverbs in that they are found in the pre-verbal or post-verbal position.

3.3.5.2 The Directional Adverb: ‘-d’

This deictic element has the meaning of ‘motion towards the speaker’. The opposite polarity, i.e. ‘away from speaker’, is the unmarked form. The fact that it provides additional semantic information to the verb, having to do with direction, is indicative that it has an adverbial function. This morpheme generally appears with, but not exclusive to, motion verbs. A good way of demonstrating the semantic contribution of the directional morpheme to the verb is through pairs of verbs like the following: ‘come’ ↔ ‘go’, ‘take’ ↔ ‘bring’. In English, the verbs in each pair differ only in directionality and this feature is lexically marked using two different lexical verbs. In Tarifit, and in Berber more broadly, directionality is morphologically marked using the morpheme *-d*. This can be seen from the data below in (100):

- (100) a. δ -u γ ur-**d** a- δ -məkra.
 3F.SG-come.PERF-**DEIC** to F-wedding_{CS}
 ‘She came to wedding.’
- b. δ -u γ ur a- δ -məkra.
 3F.SG-go.PERF to F-wedding_{CS}
 ‘She went to the wedding.’

The basic verb, which is shared by the two sentences in (97a&b), is $\sqrt{u\gamma}$ ur. This root is then interpreted as ‘come’ when combined with *-d*, as in (100a), but defaults to ‘go’ when the same root is unmarked for directionality, as in (100b). A similar example can be seen from (101):

- (101) a. δ -g^{wi}i-**d** aman.
 3F.SG-take.PERF water
 ‘She brought water.’
- b. δ -g^{wi}i aman.
 3F.SG-take.PERF water
 ‘She took water.’

(102) a. δ -zri- $\emptyset$.
3F.SG-see.PERF-3M.SG.OBJ
'She saw him.'

b. δ -zri- $\emptyset$ i -d.
3F.SG-see.PERF-3M.SG.OBJ **DIR**
'She saw him, as he was coming towards us.'

3.4 Conclusion

This chapter, first, looked at the nominal category whose main features are gender and number. This marking applies to lexical nouns and to other various pronouns. Some language-specific morphological aspects are generalized across the board. For instance, lexical nouns display two main morphological aspects. The first one has to do with gender, whereby feminine is the only marked feature but masculine is the unmarked form. This pattern is generalized to a large extent to many pronominal sets. The second aspect is the interaction of gender and number. It was observed that lexical nouns have at least a feminine morpheme that is exclusive to plural. This pattern is also observed with many pronominal elements. A nominal copula is identified which can only head a nominal clause and has a prototypical generic interpretation. The coordinator *ǝ-* is another element that was discussed in the section dealing with the nominal category. The fact that it can only conjoin two DPs was presented as evidence that this morpheme must part of the nominal category. Because lexical DPs in Tarifit, and Berber more broadly, do not encode morphological marking,

prepositions are used as an alternative to the peripheral/semantic case and this makes them, which makes them part of the nominal category. Two properties associated with prepositions in Tarifit: (1) they all mark their DP object for CS, and (2) they behave like clitics when their object is pronominal.

As for the verbal category, this is mainly represented by lexical verbs which inflect for aspect/tense and subject agreement. Three function verbs were discussed. The first one is a future marker and the other two encode both tense and aspect all at once. Negation was shown to consist of two discontinuous morphemes. The second negative morpheme may also be substituted for another pronoun or an adverb, both of which have a negative meaning. The fact that negation correlates with a particular perfective form marked on the main verb is evidence that it is part of the verbal category. In the last of the section dealing with the verbal category, I discussed adverbs in Tarifit. On the one hand, I showed that this notion can be expressed by some bare roots which are flexible in terms of their distribution with the clause. In view of this, they can be either VP or IP adverbs. On the other hand, adverbs that are expressed using PPs are more constrained in terms of their distribution and I concluded that these can only be VP adverbs. The last two adverbs I discussed are locative and directional morphemes. These are VP adverbs and behave as clitics.

THE MORPHOLOGY OF NOUN CLASSES

4.1 Introduction

This chapter examines the morphology of nouns which consists of number and gender. Nouns have no morphological information on definiteness, nor do they encode case morphology. Furthermore, Tarifit nouns inflect for what is known as the Construct State (CS but this phenomenon is investigated separately in the next chapter. This morphology is generally shared by other major studied Berber languages, but language-specific morphological variations may occur.

With respect to number, singular displays a straightforward morphology which is consistently marked as a prefix. However, plural involves more morphological complexity in that the system manifests a mix of affix-based morphology and a what appears to be discontinuous marking that affects the vocalic system inside the root through ablaut and/or vowel infixing. One of the main aims of this chapter is to defend an analysis according to which this marking is essentially concatenative though independently motivated phonological processes following vocabulary insertion may alter an underlying regular morphology. Once these surface phonological processes are identified, a more regular morphological pattern that is linearly ordered then emerges yielding four natural classes.

Unlike number, feminine displays a more regular pattern with a clear affix-based morphology. However, I show that the complexity of this system lies with its sensitivity to number. More specifically, there is evidence of feminine marking which is exclusive to the plural environment. This morphology was attested with other nominal elements including pronouns in the previous chapter. The analysis deals with cases like these using the device of fission where some morphemes may bundle both the feminine and plural feature, as discussed in chapter two. In view of this fact, the organisation of the morphology of feminine into natural classes is based on this overlap between it and number (singular or plural).

The main purpose of this chapter is as follows: (1) to provide a thorough description of the number and gender system of nouns in Tarifit, (2) to formulate accurate generalisations which identify consistent and predictable natural classes, and (3) to show how the late insertion approach where phonology has an interpretive role informs our understanding of this morphological system.

This chapter is organised as follows. Section two explores the number marking system, identifies its morphological paradigms, and proposes the morphological rules responsible for generating the insertion of these paradigms. Section three deals with the morphological system of gender with particular focus on the feminine marking system. There, I identify the morphological paradigms which spell out the feminine feature and then propose the rules responsible for the insertion of these paradigms. Section four concludes the chapter.

4.2 Number Marking

Number-marking is generally argued to have three main characteristics: (1) it may be linearly ordered using an affix-based morphology, (2) may have a discontinuous kind of morphology that affects the vocalic system inside the root, and (3) a combination of both linear and discontinuous marking. A general picture about this morphological system is illustrated as in (1):

(1)

	SINGULAR	PLURAL	MEANING
a.	a-βrið	i-βrið-n	‘road’
b.	ø-awar	ø-awar-n	‘talk’
c.	a-srm	i-srm-an	‘fish’
d.	ø-irf	irf-an	‘pig’
e.	ø-ufʃn	ø-ufʃn-an	‘fox’
f.	ø-iθri	ø-iθr-an	‘star’
g.	a-jaθir	i-jaθar	‘carpet’
h.	a-mçan	i-muçan	‘place’
i.	(a)-faða	i-fuða	‘cactus’
k.	(a)-kanim	i-kanam	‘reed’

These paradigms are generally similar across the major studied Berber languages, though Tarifit appears to have diachronically developed a much more regular plural marking, as I show at a later stage of this chapter. The

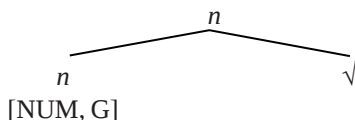
first observation in (1) has to do with number marking as a prefix. On the one hand, there is a pattern where the singular is spelt out as *a-* and plural as *i-*. On the other hand, number (singular or plural) in the same position displays no overt marking in the prefix position, which I represent here as $\emptyset$ -. The fact that the vowel in the initial position is invariable, regardless of whether the noun is singular or plural, is evidence that this vowel is not a morpheme but part of the lexical root. Nouns that have no overt morphology on number in the prefix position are less common than the ones displaying overt prefix marking. Idrissi (2001) shows that this set of nouns represent only 10% from his corpus of Tamazight. Similarly, this form in Tarifit is not as productive as nouns which encode overt prefix marking as will be seen in the discussion of nouns classes. In view of the simple marking in the prefix position, this morphology does not warrant any major investigation. Instead, it is the second copy of the plural marking morphology that is more complex. The first paradigm which is the most common has the [PLURAL] marked by the suffix *-n*, as in (1a-b). The second pattern makes use of *-an*, as in (1c-f). Note that this pattern may involve a basic process of affixation but in some other cases, like (1f), the ultimate vowel *i* that is part of the root appears to ablaut to *a* becoming part of the morpheme *-an* in plural. This is at least one way of looking at it descriptively. The third pattern has the second copy of the plural marked by *a*, as in (1g), but this marking is realised by ablauting the second/final vowel of the root becoming *a* when in plural. The fourth pattern of the plural marking system involves *u*, as in (1h-k), but this system is accomplished in three ways: (1) by simple infixation, as in (1h), (2) by ablauting the vowel occupying the first segment of the root, as in (1i), and (3) by a mix of ablauting of the same vowel and a further vocalic change that affects the last vowel of the root, as in (1k). Despite what appears to be a complex system, there appears to be a general consensus among the works undertaken on the number marking system of Berber that some predictable regularity emerges when this morphology is properly considered (Saib 1986, Jebbour 1988, Dell and Jebbour 1995, Idrissi 2001). However, some differences remain as to how class membership is organised. I point to some of these studies when relevant.

4.3 Background assumptions

Before dealing with the morphology of nouns and the issues raised in the survey presented above, I wish to highlight some points that are fundamental to the current analysis. As discussed in chapter three on the framework, nouns (and words in general) are built in the syntax and their structure consists of at least a lexical root and a category-defining functional

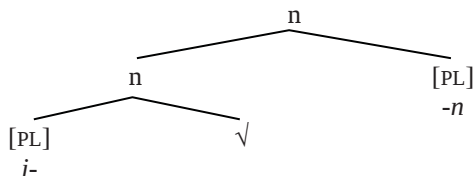
head. For Tarifit, and Berber more broadly, number and gender are responsible for spelling out the universal feature *n*- (node) associated with the nominal category. So, the proposed analysis departs from the traditional lexicalist approach to the structure of the noun in Berber. According to this classical view, the lexical root is the head of the NP and number and gender occupy the head of the DP (Ouhalla 1988, Dell and Jebbour 1995, El Moujahid 1997). The derivation of noun, as was discussed in chapter three, is repeated here as in (2):

(2)



This basic structure may project further into a DP, but the latter head is only syntactically marked, in that Berber nouns have no morphological information on definiteness. Under a syntactic approach to morphology where one morpheme projects its own terminal node, the structure in (2) as it stands is the underlying syntactic derivation of the noun displaying a one-to-one relationship between syntax and phonology (one terminal node ↔ one morpheme). Singular is the only paradigm which matches the structure in (2), in that it has one morpheme occupying the prefix position as seen in (1a). As for plural, we have seen that this form has at least two copies. For instance, the most common pattern has the plural spelt out by *i*- and *-n* with the surface representation as in (3):

(3)



Under the proposed analysis, the suffix is added in Morphology and that instances like these were argued in chapter three to follow from the process of fission which is responsible for creating additional copies of the same syntactic feature.

Despite what appears to be some surface inconsistencies having to do mainly with the vocalic marking of the plural seen in (1), the analysis argues for a systematic pattern where the morphology of plural displays two copies across the board. Aside from the prefix *i-*, the second copy may be realised in phonology as *-n*, *-an*, *-a-* or *-u-*. The competition for insertion between these three exponents/allomorphs makes the prediction that the insertion of one item excludes the others, leading to a complementary distribution between the four allomorphs.

As for the mechanism which constrains the distribution of these plural paradigms into predictable natural classes, the proposed framework argues that the notion of ‘class’ is an idiosyncratic property of the phonological root. During the process of vocabulary insertion for the nominal functional category, which is spelt out by number and gender, the phonological information displayed by the roots becomes visible to these functional vocabulary items allowing the insertion of one paradigm over another²⁶. This hypothesis also makes the prediction that phonological roots are inserted prior to phonological affixes.

Traditional lexicalist studies of Berber nominal morphology claim that plural is derived from singular on the assumption that it is the basic form (Jebbour 1988, Dell and Jebbour 1995). Since phonology in DM has an interpretive function, it makes no sense in this model to talk about one form as derived from another in that vocabulary items for number and gender all compete for insertion on the basis of their morpho-syntactic specification. My investigation of the number marking system identifies four classes, and this task is undertaken next.

4.3.1 Class-I: *n*-Nouns

This class, which is by far the most dominant within the number marking system, takes the [PL] ↔ *-n* as a suffix. As for the prefix position, and like all other classes, there is an alternation between the [SING] ↔ *a-* and the [PL] ↔ *i-*. A list illustrating the morphology of these nouns is represented as in (I):

²⁶ For a similar analysis, see Bobaljik (2000), Embick and Noyer (2004) and Marantz (2003). These authors discuss the plural allomorphy in English and argue that phonological roots may condition the choice of different plural paradigms. For instance, roots like ‘√ox’ or ‘√child’ may condition the [PLURAL] ↔ *-n* whereas roots like ‘√house’, ‘√school’ etc. may condition the [PLURAL] ↔ *-s*.

I.

	SINGULAR	PLURAL	MEANING
1.	a-βrið	i-βrið-n	‘road’
2.	a-ɣnʃiʃ	i-ɣnʃiʃ-n	‘lip’
3.	a-ʒðið	i-ʒðið-n	‘bird’
4.	a-mʃiʃ	i-mʃiʃ-n	‘cat’
5.	a-mçri	a-mçri(j)-n	‘wedding eve’
6.	a-mzir	i-mzir-n	‘blacksmith’
7.	a-mzzuɤ	a-mzzuɤ-n	‘ear’
8.	a-qmmum	i-qmum-n	‘mouth’
9.	a-qzin	i-qzin-n	‘dog’
10.	a-ðβiβ	i-ðβiβ-n	‘doctor’
11.	a-θβir	i-θβir-n	‘pigeon’
12.	a-θaras	i-θaras-n	‘gentleman’
13.	a-qnsur	i-qnsur-n	‘face’
14.	a-qnuʃ	i-qnuʃ-n	‘pot’
15.	a-skkiʃ	i-skkiʃ-n	‘sip’
16.	a-xxam	i-xxam-n	‘room’
17.	a-zdʒiʃ	i-zdʒiʃ-n	‘head’
18.	a-zdʒið	i-zdʒið-n	‘king’
19.	a-wriɖʒi	i-wriɖʒi(j)-n	‘spider’
20.	a-ɣimi	i-ɣimi(j)-n	‘sitting’
21.	∅-amziw	amziw-n	‘ghoul’
22.	∅-aβriw	∅-aβriw-n	‘eyelash’
23.	∅-ammiw	∅-ammiw-n	‘eyebrow’
24.	∅-awar	∅-awar-n	‘talk’

I should also add that [NUMBER] with some nouns, like (I₂₁₋₂₄), is not overtly marked which I represent here as ∅-. We will see that this morphological property is also shared by Class-II examined in the next section. The non-overt realisation of number in the prefix position is easily predictable in that it occurs only with roots that have a vowel in the initial position. Another point has to do with the epenthetic glide /j/ inserted between the root and the suffix observed with nouns like (I₅), (I₁₉) and (I₂₀). This issue is phonologically motivated and bears no relevance to the morphology of nouns. The epenthetic glide follows from the widely attested constraint which bans onsetless syllables within the same syllabification domain (Dell

and Elmedlaoui 1985, Dell and Tangi 1992). Other phonological motivations of the epenthetic glide were also discussed by Guerssel (1987)²⁷. Under a late insertion hypothesis where the phonological forms of terminal nodes are inserted after they are construed by the syntax, processes like these are part of the phonological readjustment rules following vocabulary insertion. In other words, DM recognises that both vocabulary items for roots and vocabulary items for functional categories have an underlying representation. Following their insertion, language-specific phonological repair mechanisms may alter an underlying representation of these vocabulary items. The epenthetic glide is an example of this process, and therefore not part of the morphological system. I show later in the chapter that there are other cases which I argue are the result of these phonological readjustment rules and these should be kept separate from the exponents which spell out the plural feature. In view of the highlighted forms for singular and plural in (I), the exponents which realise these two features are represented as in (4):

(4)

[+SG] ↔ /a-/

[+PL] ↔ /i-/ , /-n/

[NUM] ↔ /ø-/

4.3.2 Class-II: *an*-Nouns

This class shares the same number morphology in the prefix position with the previous class but the second copy of the [PLURAL] is realised as *-an*. An example of the nouns which fall within this class is represented as in (II):

²⁷ The phonological motivation the glide insertion using the noun in (I₂₀) is illustrated as in (i). We can see that the glide (highlighted below) is inserted when the syllable finds itself without an onset.

(i) aw.ri.dʒi (singular) ↔ iw.ri.dʒi.jən (plural) ‘spider’.

II.

	Singular	Plural	MEANING
1.	a-ndr	i-mðr-an	‘tomb’
2.	a-rɛm	i-rɛm-an	‘camel’
3.	a-srm	i-srm-an	‘fish’
4.	a-ðwð	i-ðwð-an	‘finger’
5.	ø-irf	ø-irf-an	‘pig’
6.	ø-iks	ø-iks-an	‘bone’
7.	ø-ufn	ø-ufn-an	‘wolf’
8.	ø-ismɤ	ø-ismɤ-an	‘slave’
9.	ø-uðm	ø-uðm-a(w)n	‘face’
10.	ø-irm	ø-irm-a(w)n	‘skin’
11.	ø-ism	ø-ism-a(w)n	‘name’
12.	ø-izm	ø-izm-a(w)n	‘lion’
13.	ø-ur	ø-ur-a(w)n	‘heart’
14.	ø-iθri	ø-iθr-an	‘star’
15.	ø-izri	ø-izr-an	‘song’
16.	ø-izi	ø-iz-an	‘fly’

The fact that $\emptyset \leftrightarrow [\text{NUMBER}]$ is associated with lexical roots that have a vowel in the initial position, as pointed out in the previous section, is further supported by the data in (II). Similarly, the phonologically motivated epenthetic glide discussed before is also manifested with some nouns, as in (II₉₋₁₃) but the process in these cases applies inside plural suffix. Aside from the [PLURAL] suffix $\leftrightarrow$ *-an* which applies to all nouns in II, a handful of nouns undergo an additional process which deletes the last vowel of the root as in (II₁₄₋₁₆). Under the proposed analysis, it can be argued that these nouns get marked for the [PLURAL] $\leftrightarrow$ *-an* in the usual fashion. After vocabulary insertion, a readjustment rule applies where the last vowel of the root is deleted as in (5):

(5) /iθri + -an/ $\rightarrow$ /iθran/ ‘star’.

The deletion of the vowel can be argued to follow from the same constraint on vowel hiatus pointed out earlier. This constraint is avoided using the epenthetic glide or through vowel deletion. Processes like these are

commonly found in cases other than nouns²⁸. That way, a systematic morphology emerges where the plural feature in the suffix position is spelt out by *-an*. A phonological readjustment rule following vocabulary insertion deletes the final vowel for lexical roots that have a vowel at the end. So, the exponents marking number with this class are represented as in (6):

(6)

- [SING] ↔ *a-*
 [PL] ↔ *i-*, *-an*
 [NUM] ↔ *ø-*

This morphological set is like the previous one except that the second copy of the [PLURAL] feature is realised as *-an*.

4.3.3 Class-III: *a*-Nouns

Aside from the prefix position which displays a regular pattern in the usual fashion, with a clear alternation between *a-* ↔ [SING] and *i-* ↔ [PL], this class has also a second plural marker but its distribution is not as straightforward as in the previous classes. The list of nouns representing this class is included in (III):

²⁸ In (i), the highlighted verb has a vowel at the end:

- (i) **i-wʃa** ǫ-i-nʔaʃ-i-n i- jmma-s.
 3M.SG-give.PERF F-PL-money-F.PL-F DAT mother-3SG.POSS
 ‘He gave money to his mother.’

When the dative clitic pronoun *-as* is used as an alternative to the lexical dative/PP, as in (ii), the vowel that is part of the verb deletes when it is phonologically adjacent to the vowel that is part of the dative pronoun.

- (ii) **i-wʃ-as** ǫ-i-nʔaʃ-i-n. /i-wʃa + -as/ → /i-wʃ-as/.
 3M.SG-give.PERF-3SG.DAT F-PL-money-F.PL-F
 ‘He gave her money.’

III.

	SINGULAR	PLURAL	MEANING
1.	a -jaθir	i -jaθ- a -r	‘mat’
2.	a -mndir	i -mnd- a -r	‘cloth’
3.	a -riri	i -rir- a	‘native plant’
4.	a -yndu	i -ynd- a	‘hole’
5.	(a) -murðus	i -murð- a -s	‘carcass’
6.	a -mhruç	i -mhr- a -ç	‘sick man’
7.	a -mðrur	a -mðrar	‘shameful man’
8.	a -riθu	i -riθ- a	‘bed’
9.	a -sarðun	i -sað- a -n	‘mule’
10.	a -snduq	i -snd- a -q	‘box’

As can be seen, the second morpheme marking plural in (III) is represented by *-a-*. However, the marking does not proceed by simple insertion but through vowel modification inside the root. Descriptively, a vowel that is part of the root ablauts to *-a-* when in plural. This raises the question as to whether an affix-based approach is the right analysis for this paradigm. There are two pieces of evidence showing that the approach, which assumes the number marking system of Tarifit to have an affix-based morphology, is on the right track. First, the plural feature is marked by the invariable morpheme *-a-*. Secondly, this morpheme consistently falls on the final segment of the phonological root. So, the only difference between basic affixation and this paradigm is that the plural in this class is accomplished through an ablaut kind of morphology, using the same morpheme which occurs in the same position. Under the proposed analysis, it can still be argued following standard practice in DM that *-a-* is an infix but its insertion triggers the deletion of the final vowel of the root, as in (7):

(7) /jaθir/ + /-a-/ ↔ [PLURAL] → [jaθar] ‘mat’.

The advantage of the analysis is that it makes the right predictions for the general morphology of plural where the second copy may be realised as *-n*, *-an* or *-a-* and the insertion one of these morphemes prevents the insertion of the others²⁹.

²⁹ There are cases that may display slight variations in form but can still be classified with this class. For instance, √skun ‘rope’ displays the following alternation: *askun*

Another prediction that the analysis makes is that the process of fission has a constrained system creating two copies for the [PLURAL] feature: the first copy is realised as a prefix and the second copy may be realised as an infix or a suffix. I show that this morphological system is further supported by the last paradigm in IV. So, the vocabulary items realising number in (III) are represented as in (8):

(8)

[SING] ↔ *a-*
 [PL] ↔ *i-*, *-a-*

So, the exponents which spell out the prefix position are identical to the previous classes, but the difference lies with the second copy of the plural feature which is realised as *-a-*.

4.3.4 Class-IV: *u*-Nouns

This class shares the same marking with the previous classes in the prefix position, displaying the usual alternation between *a-* → [SING] and *i-* → [PL]. However, the difference lies with the second copy of the plural feature. A list of nouns representing this class is provided below in (IV):

→ [SING] and *iskwan* → [PL]. The morphology of this noun can still be included within this class with the representation as in (i):

(i) [SINGULAR] → **a-skun**; PLURAL: /**i-skun** + **a**/ → **i-sku-a-n** (= /**i-skw-a-n**/) ‘rope’. The noun takes the usual morphology in the prefix position, but the second plural marker is still realised by *-a-* except that the morpheme proceeds by simple infixation. Note the readjustment rule where the vowel /u/ becomes the corresponding glide following the insertion of *-a-* → [PL].

IV.

	SINGULAR	PLURAL	MEANING
1.	a-sfa	i-s-u-fa	‘medicine’
2.	a-κraf	i-κ-u-raf	‘cover’
3.	a-ska	i-s-u-ka	‘plough’
4.	a-ðra	i-ð-u-ra	‘mountain’
5.	(a-)faðā	i-f-u-ðā	‘cactus’
6.	(a-)raθa	i-r-u-θa	‘footprint’
7.	(a-)faðis	i-f-u-ðas	‘native tree’
8.	(a-)κanim	i-κ-u-nam	‘reed’
9.	(a-)qaβu	i-q-u-βa	‘stick’
10.	(a-)βaðu	i-β-u-ðā	‘row’
11.	(a-)saru	i-s-u-ra	‘deep creek’
12.	(a-)saθu	i-s-u-θa	‘beam’
13.	(a-)maðun	i-m-u-ðan	‘steamer-pot’
14.	(a-)qaðus	i-q-u-ðas	‘pipe’

There are many issues with this set of nouns which make it different from the previous classes. For instance, the roots in (IV₁₋₄) take *u* in plural, the roots in (IV₅₋₆) use the same marker but this process is accomplished by an ablaut type of morphology where the first vowel of the root becomes *u* in plural. The roots in (IV₇₋₁₄) appear to use multiple ablauting in that both vowels that are part of the root undergo change when in plural. In view of these discrepancies, the main concern is whether there are any motivations for grouping these nouns together as a single natural class. In what follows, I will continue to defend an affix-based approach and argue that this set of nouns is indeed an independent class, by arguing that the second copy of the [PLURAL] feature is spelt out by *-u-*. Other variations in form when in plural are argued to be motivated by independent phonological processes that are not relevant to morphological system of plural.

Since morphology is about identifying predictable patterns that occur regularly, let us now examine whether these nouns display anything of this sort. Of particular importance is the systematic presence of *u* when in plural which is the only element that applies across the board. Furthermore, *u* is consistently marked on the first segment of the phonological root: $\sqrt{\text{C-u-CV(C)}}$. In view of this systematic distribution, there are reasons to assume that *u* is a plural morpheme. Once this hypothesis is established, a better

picture then emerges that allows us to deal with the additional changes found with some (but not all) nouns using a single phonological readjustment rule.

Starting with roots that display the most regular pattern, as in (IV₁₋₄), the marking of plural with this set of nouns takes *-u-* which is simply inserted as an infix on the first segment of the root, as in (9):

(9) /mçan + **u**/ → [m-**u**-çan] ‘space’.

Other roots inflect for the same morpheme but the insertion of *-u-* → [+PLURAL] triggers the deletion of the first vowel of the root, like the previous class, as in (10):

(10) /faða + **u**/ → [f-**u**-ða] ‘cactus’.

Cases where the insertion of *-u-* → [+PLURAL] triggers the deletion of the first vowel of the root are phonologically predictable. This process exclusively applies to roots involving a vowel in the same position where the plural is marked: (√C-V-CV(C)). For roots that do not have a vowel in the position where the plural is marked (√C-Ø-CV(C)), *-u-* proceeds by simple infixation (√C-**u**-CV(C)). But the most important evidence in support of a regular affix-based morphology is that the second plural marker always applies on the same position.

As for the additional change affecting the last vowel of the root, which concerns the set of roots in (IV₇₋₁₄), the insertion of *-u-* → [+PLURAL] triggers a readjustment rule that changes the last vowel of the root into, /a/ as in (11):

(11) /qaβu + **u**/ → [q-**u**-βa] ‘stick’.

This phonological rule is also predictable in that it applies only to vowels that are [+HIGH] (i.e. /i/ or /u/), as in (12):

(12) /√CVCV_{i/u}(C) + **u**/ → /√C-**u**-Ca(C).

Outside this environment, no change is required. If this change was morphologically motivated, it would be expected to apply across the board.

As can be seen, the advantage of this approach is that a systematic pattern emerges where the insertion of *-u-* as a second plural marker is conditioned by the set of roots in (IV), which accounts for the complementary distribution of this morpheme with *-a-*, *-an* and *-n* seen with the previous

classes. Furthermore, the analysis predicts my earlier hypothesis where plural has two copies across the board, but the difference only lies with the phonological realisation of the second copy. This in turn motivates the complementary distribution between the four exponents. So, the insertion of *-u-* as the second copy of the plural prevents *-a-*, *-an* and *-n* from appearing, and the insertion of *-a-* prevents *-an*, *-n* and *-u-* from appearing etc. So, the morphemes which spell out the singular and plural features with this class are represented as in (13):

- (13) [+SG] ↔ *a-*.
 [+PL] ↔ *i-*, *-u-*.

Other Berber languages, like Tamazight (Idrissi (2001) and Tashelhit (Dell and Jebbour 1995), appear to have the kind of vocalic marking similar to the ones discussed from Class-III and IV more productively than Tarifit and that the latter appears to have diachronically developed a more regular pattern for the morphology of plural. For instance, many nouns that these authors reported to use vocalic marking take the basic paradigm in Tarifit (i.e. '*a-* ↔ [SINGULAR] and *i-*, *-n* ↔ [PLURAL]')³⁰. Idrissi proposes to deal with this vocalic marking in Tamazight by adopting a templatic approach where any vocalic change inside the root is part of the morphology of plural, and that the plural allomorphy is dependent on the vocalic pattern available for a particular set of roots. So, this approach takes plural to be marked using vocalic patterns rather than simple affixation as proposed here. Some of the cases discussed by Dell and Jebbour and Idrissi are the Tamazight and Tashelhit nouns in (14) and (15), respectively:

³⁰ In Tashelhit, for instance, Dell and Jebbour (1995) discuss nouns like (i) and (ii). The plural form of these nouns is *i-* and *-n* but an additional vowel is inserted on the last segment of the root.

- (i) **a-mjɨwɨ** (SING) ↔ **i-mjɨwɨr-n** (PL) 'consultation'.
 (ii) **a-mar** (SING) ↔ **i-mariw-n** (PL) 'beard'.

By contrast, the corresponding examples in Tarifit simply take the usual regular paradigm (*i-*, *-n*) when in plural as in (iii) and (iv):

- (iii) **a-mɣawar** (SING) ↔ **i-mɣawar-n** (PL) 'consultation'.
 (iv) **a-rhjan** (SING) ↔ **i-rhjan-n** (PL) 'beard'.

It is not clear how productive these plural cases in Tashelhit are for them to be classified as a regular and independent class.

(14)

SING	PL	MEANING
ma <u>ḍ</u> l	im <u>u</u> ḍal	'cheek'
sa <u>m</u> mr	is <u>u</u> mmar	'wall'

(15)

SING	PL	MEANING
a. adda <u>l</u>	iddula	'shawl'

In the Tamazight case, in (14), the plural form involves the insertion of the highlighted vowel *-a-* on the last segment of the root and an additional ablaut of the underlined first vowel of the root that changes from /a/ to /u/. A similar process also applies to the plural form in Tashelhit, in (15). Under an affix-based analysis, like the one proposed here, the highlighted vowel can be analysed as the true infix marking plural, but its insertion triggers the vowel change on the first segment of the root. Note that the phonological change according to the analysis proposed here for Tarifit does not need more than one phonological readjustment rule, since Berber roots do not generally have more than two vowels if the transitional schwa is excluded. If the most regular vowel is taken to be the plural morpheme, only one rule is needed for the second vowel if it is affected by the change. A late insertion approach that allows a separation in function between the surface phonological form and the actual morphological system I believe makes this morphological system much more economical than an approach in which phonological variation is taken to be part of the plural marking system. This could potentially lead to more inflectional classes if we take on board all the surface forms discussed.

4.3.5 Summary

After identifying the natural classes of the number marking system and the relevant vocabulary items, the four inflectional classes are formally schematised as in (16):

(16)

NUMBER MORPHOLOGY		
CLASSES	SINGULAR	PLURAL
CLASS-I	[SING] <i>a-</i> or $\emptyset$ -	[PL] / \ <i>i-</i> or $\emptyset$ - <i>-n</i>
CLASS-II	[SING] <i>a-</i> or $\emptyset$ -	[PL] / \ <i>i-</i> or $\emptyset$ - <i>-an</i>
CLASS-III	[SING] <i>a-</i>	[PL] / \ <i>i-</i> <i>a-</i>
CLASS-IV	[SING] <i>a-</i>	[PL] / \ <i>i-</i> <i>-u-</i>

There is a total of seven vocabulary items which realise the number marking system. In the prefix position, there is an alternation between the [SING] $\leftrightarrow$ *a-* and [PL] $\leftrightarrow$ *i-*. The [NUM] $\leftrightarrow$ $\emptyset$ - is the less specified exponent in that it is found in both [SING] and [PL]. This is an instance of underspecification (Halle 1997) which is relevant during the process of vocabulary insertion. As discussed in chapter three, Halle’s subset principle ensures that the highly specified vocabulary items are inserted first during the process of insertion. In this case, for instance, [SING] and [PL] are a subset of [NUM]. So, vocabulary items that are specified for singular or plural will have the priority of insertion over items that are specified for [NUM] only. Note that the insertion of $\emptyset \leftrightarrow$ [NUM] is also phonologically predictable in that it is conditioned by roots that have a vowel in their initial position. The second copy which is realised as a suffix or infix is exclusive to the plural environment with four exponents: *-n*, *-an*, *-a-* and *-u-*. At vocabulary insertion, these exponents are manipulated by a language-specific morphological procedure which native speakers have access to yielding four predictable sets of paradigms. Class-I realises its singular marker by *a-* or $\emptyset$ - whereas the plural feature has two copies: *i-* and *-n*. Class-II displays identical morphology to the previous class in the prefix position but the only overtly marked feature is plural which is spelt out as *-n* whereas the prefix

position defaults to $\emptyset$ - (singular or plural). Classes-III & IV maintain the same morphology as Class-I in the prefix position but differ in the way the second copy marking plural is represented in phonology. Class-III has this copy as *-a* and Class-IV as *-u-*. As pointed out earlier, the consistency of this morphology lies with its predictability. The system shows that singular is marked only once as a prefix whereas plural is marked twice as a prefix and a suffix or infix. This accounts for the complementary distribution mainly, between the plural exponents in the infix/suffix position. So, the appearance of *-n* with Class-I prevents *-an*, *-a-* or *-u-* from appearing. Similarly, the appearance of *-a-* with Class-III prevents *-an*, *-n* and *-u-* from appearing etc.

4.3.6 Morphological rules

Now that the exponents representing number are identified, the rules of insertion which place them into their corresponding classes are stated as in (17). Because number is available for insertion with two positions, the prefix is accounted for by rules (17-i) and the second position (suffix or infix) by rules (17-ii). The issue of whether a given vocabulary item is a prefix, infix or a suffix is another information that these items are specified for in the phonological component.

As a prefix, number has three exponents: $\emptyset$ -, *i-*, and *a-*. These vocabulary items are all activated and compete for insertion when the derivation is sent for interpretation by phonology. For plural, this feature is spelt out as *i-* whereas singular, which I represent here as [-PL], is spelt out as *a-*. Outside these environments, [NUM] is simply realised as $\emptyset$ - being the underspecified exponent and therefore subject to the general case rule.

(17)

- i. [NUM]: prefix
 [+PL] $\leftrightarrow$ *i-*
 [-PL] $\leftrightarrow$ *a-*
 [+NUM] $\leftrightarrow$ $\emptyset$ -

As for the suffix position which is exclusive to the [+PL] feature, competition for insertion takes place between *-n*, *-an*, *-a-* and *-u-* as in (17ii). Vocabulary insertion ensures that *-n* is inserted in the environment of Class-I, *-an* in the environment of Class-II, *-a-* in the environment of Class-III and *-u-* in the environment of Class-IV.

- ii. [NUM]: suffix/infix
 [+PL] ↔ /-n/ ____ Class-I.
 [+PL] ↔ -an/ ____ Class-II.
 [+PL] ↔ -a- / ____ Class-III.
 [+PL] ↔ -u- / ____ Class-IV.

4.4 Gender marking

As pointed out in chapter two, gender is marked for feminine only whereas masculine is the unmarked form of the noun. So, my study of gender is mainly concerned with feminine morphology. One of the main properties that characterises this system is its sensitivity to number. In chapter three on the framework, it was observed that there is a least one morpheme which is exclusive to a noun that is both feminine and plural. For this purpose, nouns are invoked in both singular and plural. This interaction can be noticed from the data in (18):

(18)

- | | |
|---|---|
| a. ǫ-a-funas-θ
F-sg-cow-F
'Cow.' | b. ǫ-i-funas-i-n
F-cow-F.PL-PL
'Cows.' |
|---|---|

In (18a), feminine is marked as a prefix and a suffix but this morphology is not maintained when the noun is in plural, as in (18b). Instead, the second position is filled by *-i-*. The fact that this exponent is exclusive to feminine in the environment of plural is evidence that it is specified for both [FEM] and [PL].

The interaction between feminine and plural is also a major player in the way the inflectional classes for feminine are organised. This can be seen from the data below in (19):

(19)

- | | |
|--|--|
| a. ǫ-a-ggur-θ
F-SG-door-F
'Door.' | b. ǫ-i-ggura
F-PL-door
'Doors.' |
|--|--|

The noun above in (19a) manifests identical feminine marking to (18a) (i.e. when in singular). In plural, however, feminine shows up as a prefix only

as in (19b) compared to (18b) where the same feature is marked by two morphemes. Similarly, in (20), feminine in singular is marked as a prefix (20a) but the same feature in plural has the additional feminine-plural morpheme *-i-* (20b), which is identical to (18b).

(20)

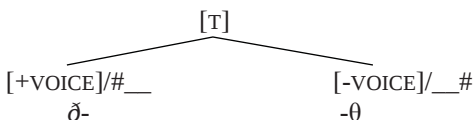
- | | |
|--|---|
| a. δ -ara
F-SG-spring
'Spring.' | b. δ -ariw-i-n
F-spring-F.PL-PL
'Springs.' |
|--|---|

Because feminine has forms for singular and other forms for plural, the organisation of the morphological patterns is based on these alternations.

4.4.1 Background assumptions

Before identifying the morphological classes available to this system, I wish to make the following point relative to the surface form of [FEM] which is realised as a prefix (δ -) and a suffix ($-\theta$). In view of their phonological similarity, I argue that this difference is only phonetic in Tarifit. The two forms are in complementary distribution, in that the voiced version occurs in the initial position (i.e. as a prefix) but its voiceless counterpart occurs in the final position (i.e. as a suffix). Note that Tarifit and Berber more broadly does of course have the feature [$\pm$ VOICE] as distinctive, but it can be argued that voicing in this context is phonetically conditioned due to assimilation. This claim also finds diachronic support in that feminine in many other Berber languages is manifested by the invariable *t*, regardless of whether the morpheme is a prefix or a suffix. In Tarifit, however, I maintain that the morpheme is [$+$ CONTINUANT] which I represent here as [T] but unspecified for [$\pm$ VOICE]. The diachronic change of consonants that are stops to fricatives in Tarifit does not only concern the feminine marker but the process of spirantization extends to many other consonants as discussed in chapter two. So, this diachronic change is now arguably stable and therefore part of the phonology of Tarifit. Under this view, feminine has only one underlying representation in phonology as in (21):

(21)



Following vocabulary insertion, the feminine marker then becomes [+VOICE] as a prefix (i.e. initial position) and [-VOICE] as a suffix (i.e. final position).

The interplay between [FEM] and [PL] has no implications on the way class membership for number and gender are organised, in the sense that the roots with the gender classes are not organised in the same way as the roots with the number classes. For instance, we have seen in the previous section that the two nouns in (22) and (23) belong to two different classes with respect to their number marking morphology. The noun in (22) belongs to Class-I (*‘i-βrið-n* → [PL]) whereas the noun in (21) belongs to Class-III (*i-zaθ-a-r* → [PL]), yet the two nouns belong to the same class marking feminine.

(22)

- | | |
|---|---|
| a. <i>ð-a-βrið-θ</i>
F-SG-road-F
‘Track.’ | b. <i>ð-i-βrið-i-n</i>
F-road-F.PL-PL
‘Tracks.’ |
|---|---|

(23)

- | | |
|---|---|
| a. <i>ð-a-zaθir-θ</i>
F-SG-mat-F
‘Mat.’ | b. <i>ð-i-zaθir-i-n</i>
F-mat-F.PL-PL
‘Mats.’ |
|---|---|

4.4.2 Gender classes

4.4.2.1 Feminine: Class-I

This class is the largest and most common in the morphology of feminine. The set of roots which appears with this paradigm is included below in (I):

I.

	SINGULAR	PLURAL	MEANING
1.	ǫ-a-funas- θ	ǫ-i-funas-i-n	'cow'
2.	ǫ-a-firas- θ	ǫ-i-firas-i-n	'pear'
3.	ǫ-a-θβir- θ	ǫ-i-θβir-i-n	'pigeon'
4.	ǫ-a-fruw- θ	ǫ-i-frw-i-n	'piece of wood'
5.	ǫ-a-hnʒir- θ	ǫ-i-hnʒir-i-n	'girl'
6.	ǫ-a-m̥ar- θ	ǫ-i-m̥ar-i-n	'woman'
7.	ǫ-a-m̥iʃ- θ	ǫ-i-miʃ-i-n	'cat'
8.	ǫ-a-kttuf- θ	ǫ-i-kttuf-i-n	'ant'
9.	ǫ-a-ɰjaj- θ	ǫ-i-ɰyay-i-n	'walnut'
10.	ǫ-a-mdʒar- θ	ǫ-i-mdʒar-i-n	'egg'
11.	ǫ-a-qwir- θ	ǫ-a-qwir-i-n	'orchard'

This feminine marking is representative of the data seen in (18). When in singular, [FEM] is realised by ǫ- and -θ. In plural, however, only the morpheme occupying the prefix position is maintained whereas the second copy is realised as -i-. So, there is an alternation with respect to the second copy of the feminine feature between -θ used in the singular form and -i- used in the plural form. As discussed in the relevant chapter, the fact that -i- is associated with feminine in the environment of plural implies that this vocabulary item is specified for both [FEM] and [PL]. So, the exponents available to this class are represented as in (24):

(24)

[+F] ↔ /T/

[+F, +PL] ↔ /i/

4.4.2.2 *Feminine: Class-II*

The argument that natural classes with the feminine marking system is organised based on its interaction with plural is also confirmed by this class, as in (II):

II.

	SINGULAR	PLURAL	MEANING
1.	ǫ-aʔur-θ	ǫ-iʔura	‘hill’
2.	ǫ-aʔman-t	ǫ-iʔumam	‘turbon’
3.	ǫ-aggur-θ	ǫ-iggura	‘door’
4.	ǫ-amur-θ	ǫ-imura	‘land’
5.	ǫ-aruwzi-θ	ǫ-iruwza	‘almond-tree’
6.	ǫ-(a)siri-θ	ǫ-isira	‘shoe’
7.	ǫ-(a)zizwi-θ	ǫ-izizwa	‘bee’

This class behaves identical to the previous one, when in singular, in that feminine is marked as a prefix and a suffix using the same exponents: ǫ- and -θ. In plural, however, feminine is only marked as a prefix. Although this class has only one feminine morpheme represented, as in (25), its morphological complexity lies with the number of copies of this feature. So, we can see in (II) that singular has two copies of feminine (a prefix and a suffix) whereas the plural has one only copy (prefix).

(25)[+F] ↔ /T/

4.4.2.3 Feminine: Class-III

This set of nouns is the only class where feminine has only one copy when in singular. In plural, however, it behaves like Class-I in that feminine is spelt out by ǫ- → [F] and -i- → [F, PL]. A list of nouns belonging to this class is represented as in (III):

III.

	SINGULAR	PLURAL	MEANING
1.	ǫ-ara	ǫ-ariw-i-n	‘spring’
2.	ǫ-(a)-fara	ǫ-i-fariw-i-n	‘peel’
3.	ǫ-amza	ǫ-amziw-i-n	‘ghoul’
4.	ǫ-a-mkra	ǫ-i-mkriw-i-n	‘wedding’
5.	ǫ-içri	ǫ-içriw-i-n	‘walk’
6.	ǫ-azra	ǫ-azriw-i-n	‘run’
7.	ǫ-akra	ǫ-akriw-i-n	‘ewe lamb’
8.	ǫ-akma	ǫ-akmiw-i-n	‘saddle’
9.	ǫ-uasra	ǫ-uasriw-i-n	‘hyena’
10.	ǫ-azuða	ǫ-izuðiw-i-n	‘platter’

This class has identical marking to Class-I when in plural, but the two classes cannot be grouped together, since the nouns which form the current class have a different paradigm in singular. Note the epenthetic glide /w/ in plural, which I argued in the part dealing with the number marking system to be phonologically motivated. In (III), the insertion of *-i-* → [+F, +PL] finds itself adjacent to the last vowel of the root and /w/ is then inserted to break the hiatus. Another phonological issue has to do with the last vowel of the root, which is /a/ in the singular form but then changes to /i/ in plural. There is no evidence that this change has any morphological implications, but the change appears to be triggered by vowel harmony. Following the insertion of *-i-* → [F, PL], the vowel /a/ in the final position of the root agrees with it becoming /i/. Like Class-I, this class has two exponents which spell out the feminine feature and represented as in (26):

(26)

[+F] ↔ *θ-*[+F, +PL] ↔ *-i-*

Before concluding this section there is a handful of nouns which deserves special attention in that their feminine marking system appears to be slightly different than the three classes discussed. A list of these nouns is included below in (27):

(27)

	SINGULAR	PLURAL	MEANING
1.	ǃ-a-βra-t	ǃ-i-βra<i>θ</i>-i-n	'letter'
2.	ǃ-amwa-t	ǃ-imwa<i>θ</i>-i-n	'heifer'
3.	ǃ-(a)firu-t	ǃ-ifira<i>θ</i>-i-n	'string'
4.	ǃ-anu-t	ǃ-anu<i>θ</i>-i-n	'spring'
5.	-----	ǃ-udza<i>θ</i>-i-n	'ewe'
6.	ǃ-asynu-t	ǃ-isynu<i>θ</i>-i-n	'cloud'

These nouns differ from the other nouns discussed in two ways. First, they take *-t* as a feminine marker in the suffix position when in singular. As discussed previously, the nouns forming the three classes in feminine generally take *-θ* in the suffix position. Secondly, and most importantly, the plural form of these nouns appears to take the additional (highlighted) feminine morpheme *-θ* in addition to *-i-* → [+F, +PL]. This suggests that feminine with the set of nouns, in (27), appears to be marked three times:

$\delta\text{-}$ $\rightarrow$ [+F], -t $\rightarrow$ [+F] and -i- $\rightarrow$ [+F, +PL] but this particular marking was not attested in any of the classes discussed previously. There, it was shown that there is generally an alternation on the suffix position of the feminine form between $\text{-}\theta$ $\rightarrow$ [F] in singular and -i- $\rightarrow$ [+F, +PL] when in plural: $\delta\text{-}\sqrt{\text{-}\theta} \leftrightarrow \delta\text{-}\sqrt{\text{-i}}$. In other words, there is a complementary distribution between $\text{-}\theta$ $\rightarrow$ [+F] and -i- $\rightarrow$ [+F, +PL]. El Hankari (2010) attributes this complementarity to a language-specific morphological constraint where feminine may have up to two copies, like plural, which would explain this complementarity between the two morphemes. But his assumption was challenged by the form of the nouns in (27) which appears to display the additional suffix $\text{-}\theta$ $\rightarrow$ [+F] in addition to -i- $\rightarrow$ [+F, +PL] when in plural. To get around the problem, El Hankari proposes to deal with this by treating what appears to be two morphemes as a single morpheme: $\text{-}\theta\text{i-}$ $\rightarrow$ [+F, +PL]. This ultimately leads him to analyse the set of nouns in (27) as a separate class. A regular pattern is then proposed where competition for insertion to fill the suffix position takes place between $\text{-}\theta$ $\rightarrow$ [+F], -i- $\rightarrow$ [+F, +PL] and $\text{-}\theta\text{i-}$ $\rightarrow$ [+F, +PL]. However, the approach appears to overlook an interesting fact having to do with the phonological form of these nouns and this is discussed next. This set of nouns was also reported from Tamazight (Idrissi 2001) and Tashelhit (Dell and Jebbour 1995). Idrissi, and Dell and Jebbour show that these roots have a consonant-final which is identical to the feminine morpheme: -t used in feminine-singular³¹. For some phonological reason, this consonant is phonetically silent in the singular form but reappears following the insertion of the feminine or plural suffix. Consider the data below in (28):

(28)

SING	PL
a. anu well 'Spring.'	b. anuθ-n well-PL 'Springs.'

The singular form of the Tarifit noun, in (28a), has a vowel final. When the noun inflects for the plural suffix -n , the consonant $\text{/}\theta\text{/}$ reappears as in (28b). Idrissi (2001: 250) shows the same process from Tamazight as in (29):

³¹ Note that the feminine suffix is realized in Tamazight and Tashelhit as -t but in Tarifit as $\text{-}\theta$, as discussed earlier.

(29)

MASC	FEM
a. axbu 'Hole.'	b. t-a-xbut-t 'Hole.'

As can be seen, the consonant /t/ in Tamazight is silent in the singular form, as in (29a), but reappears when the noun takes the feminine suffix, as in (29b). So, the question of why the feminine suffix in singular in the Tarifit data in (29a) is *-t* and not the usual *-θ* becomes apparent. This is obviously due to the presence of the consonant /θ/ that is part of the root in Tarifit. Following the insertion of /-θ/ → [F], the two identical fricatives which are adjacent becoming the corresponding stop: /θ/ + /θ/ → /t/. This kind of assimilation is common and was discussed in chapter two. So, the nouns seen in (27) have their underlying form represented as in (30):

(30)

SINGULAR	PLURAL	MEANING
ǫ-a-βraθ-θ	ǫ-i-βraθ-i-n	'letter'
ǫ-amwaθ-θ	ǫ-imwaθ-i-n	'heifer'
ǫ-(a)firuθ-θ	ǫ-ifiraθ-i-n	'string'
ǫ-anuθ-θ	ǫ-anuθ-i-n	'spring'
-----	ǫ-udʒaθ-i-n	'sheep'
ǫ-asynuθ-θ	ǫ-isynuθ-i-n	'little cloud'

These nouns have a consonant final that is identical to the feminine suffix. When the feminine suffix /-θ/ is inserted, the two fricatives are pronounced as the corresponding stop: /t/. In view of this fact, these nouns cannot be treated as an independent class but should be simply included with Class-I, which takes /-θ/ → [+F] in singular and /-i-/ → [+F, +PL] in plural.

4.4.3 Gender marking: highlights

Now that the paradigms which spell out the feminine feature are identified, some points relevant to this morphological system are of note. The feminine marker as a prefix applies across the board, regardless of number (singular or plural). As for the suffix position, all classes have the feminine marker as a suffix except for Class-III when in singular. Similarly, the same position when in plural is filled with the feminine plural morpheme in all classes except for Class-II. Since the marking as a suffix is displayed by most

paradigms, I argue that this process also applies to Class-III in singular and Class-II in plural. That is, these classes have a suffix position created in the morphological component but is spelt out in phonology as /ø/. Under this analysis, a more regular pattern is obtained where the three classes all have a suffix, as in (31):

(31)

GENDER MORPHOLOGY		
CLASSES	FEMININE	MASCULINE
	SINGULAR	PLURAL
CLASS-I	[F] /ð-/ /-θ/	[F] /ð-/ /-i/
CLASS-II	[F] /ð-/ /-θ/	[F] /ð-/ /-ø/
CLASS-III	[F] /ð-/ /-ø/	[F] /ð-/ /-i/

So, the suffix position is [+F] in singular and [+F, +PL] in plural. Another predictability which can also be drawn from the system has to do with the alternation of the suffix between the singular and plural form. For instance, the exponents (suffixes) that are specified for [+F] when the noun is singular are not maintained but substituted for the morphemes that are specified for [+F, +PL] when in plural. This can be seen much clearer in Class-I where /-θ/ → [+F] and /-i/ → [+F, +PL] are in complementary distribution. This complementarity can also be extended to other classes like Class-II & III. If /-ø/ in Class-II is specified for [+F, +PL], it can then be argued that it is in complementary distribution with /-θ/ → [+F]. Similarly, if /-ø/ in Class-III is specified for [+F], it can then be argued that it is in complementary distribution with /-i/ → [+F, +PL]. The desirable outcome of this reasoning is to obtain a paradigm in which feminine and feminine plural in the suffix position do not co-occur. The analysis also predicts that the morphology of feminine may have two copies, which would then be consistent with the plural marking system. In (31), feminine is marked twice across the board. For singular, the exponents which spell out the actual feature in each class

are all specified for [+F]. These are two: /T/ and /-ø/³². In the context of plural, a similar pattern is observed except that the exponents which are inserted in the suffix position are specified for [+F, +PL]. These are: /-i/ and /-ø/. After identifying the relevant exponents, the rules which place these elements in their corresponding terminal nodes are stated in the next section.

4.4.4 Morphological rules

When the syntactic output is sent for interpretation by Phonology, all exponents listed in (31) are activated and take part in the competition for insertion. Under Halle's (1997) subset principle, the exponents that are specified for both feminine and plural have priority for insertion over the exponents that are specified for feminine only. The more specified exponents are: /-i/ → [+F, +PL] and /-ø/ → [+F, +PL]. The rule which inserts the vocabulary items are stated as in (32):

$$(32) [+F, +PL] \leftrightarrow /ø/ / \text{ ___ Class-II} \\ [+F, +PL] \leftrightarrow /i/$$

During the competition for insertion, rule (32) ensures that /-ø/ → [+F, +PL] is inserted in the environment of Class-II. Outside this environment, /-i/ → [+F, +PL] is inserted and this applies to Class-I & III.

The rules which insert the less specified exponents (i.e. [+F]) then follow and stated, as in (33):

$$(33) [+F] \leftrightarrow /-ø/ / \text{ ___ Class-III} \\ [+F] \leftrightarrow /θ/ \\ [-F] \leftrightarrow \text{ZERO}$$

The two feminine positions/nodes have two exponents to choose from during the competition for insertion: /-ø/ and /T/. When the position is a suffix, /-ø/ → [+F] is inserted in the environment of Class-III. Outside this environment, /T/ → [+F] is inserted as a general case and this applies to Class-I and II. As pointed out earlier in this section, this morpheme is subject to a readjustment rule becoming voiced (i.e. /ð-/) in the prefix position and voiceless (i.e. /-θ/) in the suffix position. As for the unmarked

³² As pointed out earlier, /T/ → [+F] undergoes readjustment rule becoming /ð-/ as a prefix and /-θ/ as a suffix.

form represented here as [-F], this feature is spelt out as ZERO which is then interpreted as masculine by default.

4.5 Conclusion

This chapter has explored the paradigms representing the number and gender morphology. With respect to number, singular has a straightforward pattern which consistently shows up as a prefix. The exponents which alternate on this position are /a-/ ↔ [SING] and /ø-/ ↔ [SING]. Like singular, plural displays a basic morphology in the prefix position but differs in that this feature has a second copy. For Class-I and II, the additional plural feature is spelt out by *-n* and *-an*, respectively. Although Class-III and IV appear to use vocalic internal morphology as an alternative to the suffix, an examination of this system from a close range reveals more regular patterns than what the surface form appears to suggest. The second copy of the plural feature with Class-III is marked on the last segment of the lexical root using *a* whereas the same copy with Class-IV is marked on the first segment using *u*. Additional variations in form were argued to be independently motivated phonological processes, which apply following the insertion of the plural morpheme and should therefore be kept separate from the morphemes that spell out the plural feature.

As for the gender marking system, there are two properties which set apart this morphology from its number counterpart: (1) feminine has two copies across the board, and (2) this morphology is sensitive to number, in the sense that the marking of feminine varies dependent on whether the noun is singular or plural. Within the proposed framework, it is argued that there are exponents that are specified for [+F] and others that are specified for [+F, +PL] in that their appearance is exclusive to the plural environment. Since feminine is the only marked feature and masculine is the unmarked form of the noun, the investigation of this morphology identifies three feminine classes. Class-I has the [T] → [+F] as a prefix and a suffix whereas the suffix position is realised as [i] → [+F, +PL] when in plural. Class-II has the same exponent as a prefix and a suffix, but the suffix position is realised as /-Ø/ → [+F, +PL] when in plural. By contrast, Class-III has the prefix position realised by the same exponent as in the previous two classes, but the suffix is realised as /Ø-/ → [+F]. In plural, however, the suffix is realised as /i/ → [+F, +PL] and therefore like Class-I.

THE CONSTRUCT STATE

5.1 Introduction

The Construct State (CS) in Tarifit and in Berber more broadly is a type of marking which affects the initial vowel of the noun, as can be seen from the highlighted prefix in (1). The Free State (FS) is the unmarked/neutral form, as in (2). The phenomenon is also referred to by the French Berberists, who were among the first to explore the grammar of the language, as *état d'annexion* (bound form) versus *état libre* (citation form).

- (1) i-ffa u-qzin.
 3M.SG-eat.PERF CS-dog
 ‘The dog ate.’

- (2) i-zra a-qzin.
 3M.SG-see.PERF SG-dog
 ‘He saw dog.’

The CS was subject to some treatment in the Berber linguistic literature. Three different approaches emerge from these works: (1) an approach which simply describes the phenomenon with no specific claim (Ouhalla 1988, Cadi 1987; 1990, El Moujahid 1997), (2) an approach which associates the CS with the DP, claiming that the CS marker is a D-head (Guerssel 1987, 1992; Ennaji 2001), and (3) another approach which claims it to be a manifestation of case morphology (Prasse 1973, Bader and Kenstowitz 1987, Ouhalla 1996). It should be pointed out though that all these works share the view that the CS phenomenon is a syntactic issue, since the marking on the noun arises from specific syntactic configurations.

While this chapter does share the view that the CS is indeed syntactic, the claims which associate it with the DP and case are disputed. Alternatively, it is argued that the CS has to do with syntactic constituency. More specifically, the phenomenon is simply a language-specific property which

arises when the DP is immediately c-commanded by a higher head³³. Crucial to this syntactic relation is that the CS head can only be T or P but cannot be extended to any other heads³⁴. When the configuration is formed in the syntax and sent for interpretation by the phonological component, it is argued that the two syntactic nodes involved in the CS configuration are spelt out as one phonological word. I show how this analysis is better articulated under the DM framework, in which phonology has an interpretive role.

The chapter then formalizes this typology by providing the CS with a theoretical basis within the framework proposed. The investigation of the relative hierarchical depth within the structure of nouns reveals some interesting constraints imposed on this marking. Although the CS at the surface appears on the initial vowel of the noun as seen in (1), this vowel must be a prefix. For instance, the CS marking fails to apply to an initial vowel that is part of the lexical root. If functional heads are the terminals which contain grammatical information as argued in chapter three, and if the functional category-defining head in the case of nouns is the prefix, the fact that the lexical root cannot enter into a syntactic relation with a c-commanding head will be expected in that category-less roots are grammatically deficient. I show that some CS marking cases which appeared to be phonological are in fact syntactic.

This chapter is organised as follows. Section two discusses the syntactic environments which trigger the CS on the DP. Section three reviews and evaluates some literature undertaken on the topic. Section four proposes a unified syntactic account of the CS phenomenon. Section five looks at some morphosyntactic implications and the theoretical predictions of the analysis. Section six deals with the CS at the PF interface. Section seven sums up the paper with some concluding remarks.

5.2 The Construct State: Environments

The view that the CS arises from some specific syntactic configurations finds unanimous support in the Berber linguistic literature (see references provided in the previous section). The environments which trigger the CS marking on the noun generally apply to most Berber varieties. These are:

³³ The CS head is also referred to as the ‘Construct governor’ (Ouhalla 1988).

³⁴ While this is true for Tarifit, some parametric variations may arise between other Berber languages. In Taqbaylit, spoken in Algeria, the object clitic can also act as a CS marker of the DP in the doubling cas (Guerssel 1992, Bendjaballah and Haiden 2008, 2013).

(1) the post verbal subject and (2) the DP as the object of a preposition.

5.2.1 Post-verbal Subject

The relevance of the CS to the syntax comes mainly from word order. Only the post-verbal subject gets marked for the CS, as in (3), but the same DP remains in the FS when it is preverbal (SVO) as in (4). The object is always in the FS, including cases in which the lexical subject is pro, as in (5):

- (3) i-aza (= /jaza/) u-mzir ð-a-fðiz-θ.
 3M.SG-break.PERF CS-blacksmith F-SG-hammer-F
 ‘The blacksmith broke the hammer.’
- (4) a-mzir i-aza (= /jaza/) ð-afðiz-θ.
 SG-blacksmith 3M.SG-break.PERF F-SG-hammer-F
 ‘The blacksmith broke the hammer.’
- (5) i-aza (= /jaza/) ð-a-fðiz-θ.
 3M.SG-break.PERF F-SG-hammer-F
 ‘He broke the hammer.’

5.2.2 Complement of a preposition

All prepositions in Tarifit mark the DP they select for CS³⁵. So, in any PP where the noun is governed by a P-head, that noun must be in the CS as in (6)-(8). It should be noted that [w] and [u] in (6) and (8) are positional variants of the CS morpheme. The CS allomorphy is addressed in greater detail in ‘Section 6.6.1’.

- (6) ð-qqim ag- w-uma-s.
 3F.SG-sit.PERF with CS-brother-3M.POSS
 ‘She sat with her brother.’
- (7) ð-g^wθi-θ s- ð-ə-skw-s-θ.
 3F.SG-hit.PERF-3M.SG.ACC with F-CS-broom-F
 ‘She hit him with a broom.’

³⁵ Tamazight appears to be an exception (Guerssel 1992). Guerssel argues that there are two prepositions in that Berber languages which do not mark their object DP for CS. This claim leads him to argue that these elements are the genuine prepositions, whereas the ones that mark their DP for CS are case markers. This hypothesis is reviewed in the next section.

- (8) n-qim x- u-zaθir.
 1PL-sit.PERF on CS-carpet
 'We sat on the carpet.'

It is also worth noting that semantics bears no relevance to the phenomenon under investigation. This can be seen from constructions that may be interpreted as idiomatic expressions. Consider the data below, in (9):

- (9) i-n33ar u-mfum-a x- u-fuð ins.
 3M.SG-carve.IMPERF CS-stupid-DEM. on CS-knee 3SG.POSS
 'That idiot is looking for trouble (lit. that idiot is carving on his knee).'

The sentence above is interpreted as an idiomatic expression (see the literal meaning). The meaning of these kinds of sentences, idiomatic or literal, has no effect on the marking in that the DP is always marked for CS when the required syntactic environments are met. Sentence (9), consists of a post-verbal subject and a complement PP. So, the first DP is marked for CS since it is the subject and the second DP is also marked for CS since it is the complement of a preposition.

5.2.3 Free State

As pointed out earlier, what is referred to as the FS is the neutral unmarked form of the DP. So, it is expected that the noun is always in the FS when used outside the CS environments discussed above. The FS environments discussed in this section are not exhaustive but relevant insofar as they provide us with a better understanding of the syntactic implications of the CS. For instance, nominal adjectives are always in the FS even though they display identical morphology to the nouns they modify, as in (10)–(11):

- (10) θ-zra a-qzin a-ʃmrar.
 3F.SG-see.PERF SG-dog SG-white
 'She saw the white dog.'
- (11) i-zri-t u-qzin a-ʃmrar.
 3M.SG-see.PERF-3.F.SG.OBJ CS-dog SG-white
 'The white dog saw her.'

As discussed in chapter three and four, adjectives are also nominals but the reason why they cannot be marked for the CS is that they are in a modifying position rather than an argument position. This is additional evidence that the CS is sensitive to the syntactic property of the elements involved and

not to their surface form³⁶.

What makes adjectives display identical morphology to the nouns they modify is that they always agree with their head in number and gender. In (11), the object of the verb is in the masculine – singular form and its adjective is also marked accordingly. If the CS is analysed as a nominal feature since it is associated with nouns, the question then would be whether adjectives agree with nouns in CS. In (11), the adjective agrees with the post-verbal subject in number and gender only but does not agree with it in CS. Note that the root used as an adjective in (11) can also function as a noun, as in (12)³⁷:

- | | |
|--------------------------|----------|
| (12) i-zri-t | u-fmrar. |
| 3M.SG-see.PERF-3F.SG.OBJ | CS-white |
| ‘White saw her.’ | |

On the assumption that the nominal root in (12) is a surname/nickname of an individual, this element now acquires a full argument status becoming the subject of the verb and is subsequently marked for the CS. This is further evidence that the relevant marking is sensitive to syntactic hierarchical information. Note that Tarifit also has a predicate nominal, which consists of a functional nominal morpheme/head selecting the DP as its complement. That functional head however does not mark the DP it selects for the CS. The syntactic property, and the reason why the nominal functional element does not mark the noun it selects for the CS are examined in ‘Section 6.3’.

³⁶ What makes these nominal adjuncts different from nouns they modify is that they cannot stand alone in the clause but always dependent on the noun, as pointed out in chapter four on parts of speech. This suggests that they do not inflect for number and gender independently, but these features are rather copied onto these adjuncts from the head (i.e. noun).

³⁷ Note that Tarifit does not allow adjectives modifying a phonetically null noun. The fact that the nominal root in (12) is marked for the CS suggests that it is the only noun present in the sentence and that there is no other elided (or phonetically deleted) noun in the structure other than the one which is overtly used and subsequently marked for the CS. In other words, the nominal element which is marked for the CS cannot be an adjective.

5.3 The major approaches to the Construct State

As pointed out in section one, three major camps can be identified when surveying the broad literature on the Berber CS. The first camp, which is possibly more dominant, simply describes the phenomenon with no major claim. The second associates the CS with the DP, by arguing that the CS morpheme is an article of some sort occupying D. The third camp argues the CS to be a manifestation of case marking (see section one for the references representing each camp). This section examines the last two approaches, in addition to another approach which may be a middle ground between the two claims proposed by Ennaji (2001).

5.3.1 The DP hypothesis

The underlying claim which lies at the heart of this approach has to do with prepositions in Tamazight. Guerssel (1987, 1992) claims that there are two prepositions in that Berber language which do not mark their DP complement for the CS. These are: *al* ‘to’ and *bla* ‘without’. According to him, these functional elements are the genuine prepositions whereas the ones that mark the object DP for CS are claimed to be case markers. This distinction between the two sets of prepositions yields two different syntactic structures as in (13)–(14):

(13) [_{PP} *al* [_{KP} *ajdir*]] *al ajdir* ‘up to the cliff’

(14) [_{KP} *gherl* [_{DP} *wjdir*]] *gherl wjdir* ‘to the cliff’

Guerssel (1992: 179)

In (13), the preposition which does not CS-mark its object is the head of the PP whereas the unmarked form of the DP which the preposition selects is associated with the (covert) absolutive case and therefore has a Kase Phrase (KP) projection. In (14), however, the KP projection is associated with prepositions that mark their DPs for the CS, according to Guerssel, since these prepositions are analysed as case markers. KP as the highest projection headed by *gherl* ‘to’ then selects a DP whose head is the CS morpheme. In this sense, prepositions that do not CS-mark their DP are PPs selecting a KP and their head is covert. By contrast, prepositions that CS-mark their DP are KPs selecting a DP whose head is spelt out by the CS morpheme. The hypothesis that the CS is a DP may be independent of the existence of a KP but Guerssel still establishes a connection between the two to reject the existence of the CS as an independent morphosyntactic phenomenon.

While the argument which associates the prepositions that CS-mark their DPs with case morphology is not supported by Tarifit facts, as I show later, the preposition system of Tarifit does bear strong similarities to its Tamazight counterpart. For instance, all the prepositions which mark their DP for the CS, and referred to by Guerssel as case markers, are also found in Tarifit (see chapter four for the full list of prepositions). Important is that the allative preposition *a(r)*- ‘to’ which is found in Tamazight as *al*- is a CS-marker in Tarifit, as in (15), unlike Tamazight.

- (15) *uma-s* *i-uyur* (= /juɣur/) *a-* *u-ɣza* (= /wəɣza/).
 brother-3.SG.POSS. 3M.SG-go.PERF. to CS-river
 ‘Her brother went to the river.’

Another problem with analysing prepositions which CS-mark their object as case markers has to do with the distribution of these elements. If case markers are nominal inflections which identify the grammatical function of the noun in relation to other parts of the clause, it is expected that these inflections should remain with the DP regardless. This is not supported by the facts since nouns can be separated from what Guerssel refers to as case markers. Consider the data below in (16)-(17):

- (16) *ð-dʒəf* *i-* *w-argaz* *ins*.
 3F.SG-divorce.PERF DAT. CS-man 3SG.POSS
 ‘She divorced her husband’.
- (17) *argaz* *ins* *i-* *mmi* *ð-dʒəf*.
 man 3SG.POSS DAT. WH. 3F.SG-divorce.PERF
 ‘The husband whom she divorced.’

If we assume that the preposition, in (16), is the dative case morpheme of the DP, that marker should be maintained if the DP undergoes movement. This possibility cannot work since the DP can be extracted alone while the dative preposition is stranded lower selecting the Wh- XP, as in (17)³⁸.

As for the second element (i.e. *bla* ‘without’) which Guerssel analyses as a genuine preposition, since it is not a CS marker, that element is also found in Tarifit and behaves similar to Tamazight in that it does not mark its DP for the CS, together with *qbər* ‘before’. However, these two words are borrowed from Moroccan Arabic and analysing them as prepositions at least in Tarifit would be questionable for a host of reasons. Let us consider their

³⁸ Bendjaballah and Haiden (2013) provide similar and other additional robust evidence from Taqbaylit against analysing prepositions as case markers.

behaviour in the clause:

- (18) **bra** ma aǎ- ǎ-za-ǎ.
 NEG COMP. FUT. 2SG-see-2SG
 ‘You don’t/there is no need to see him.’

- (19) *qbər* aǎ- ǎ-za-ǎ.
 before FUT. 2SG-see-2SG
 ‘Before you see him.’

For instance, *bra* in (18) and *qbər* in (19) appear to modify a verbal clause. If this is true, a natural question which may arise from this is whether these are intransitive PPs with an adverbial function. The adverbial hypothesis may not be supported by the facts. First, the distribution of *bra* and *qbər* in the clause is fixed whereas adverbial elements including PPs are quite mobile in Tarifit, as seen in chapter four. Another possibly stronger evidence which casts doubt on the adverbial status of the two elements is that they appear to require a specific tense/aspect in the clause they select. They can only select a clause with a future tense. Other common tense/aspect forms like the perfective or the imperfective make the clause ungrammatical, as in (20)-(21)³⁹:

- (20) **qbər* ǎ-zri-t.
 before 2SG-see. PERF-2SG
 ‘Before you saw him.’

- (21) ***bra** ma ǎ-zri-t.
 without COMP. 2SG-see.PERF-2SG

The fact that these elements appear to control the tense of the verbal clause together with their fixed position suggest that they are more likely to be complementisers rather than adverbs or prepositions. This behaviour is further supported by Taqbaylit Berber. Bendjaballah and Haiden (2013) discuss the status of the same elements in that Berber language and reach the same conclusion based on similar evidence.

³⁹ The construction in (21) could be acceptable in some specific pragmatic contexts.

5.3.2 The Construct State versus case

While classical studies of Berber linguistics generally maintain that the language encodes no case morphology on lexical nouns, some previous studies have argued that the CS on the DP is a manifestation of case (Prasse 1973, Bader and Kenstowicz 1987 and Ouhalla 1996). For instance, Bader and Kenstowicz argued from Taqbaylit Berber that the CS is a manifestation of oblique case. The claim was based on the hypothesis that all prepositions assign oblique case to their complement – DP. If this claim is right, this will imply that the post-verbal subject should also be marked for oblique case. It is not clear how this could be possible and why the subject should bear such marking. The authors did try to address this question by providing some data in support of their claim, which I cannot discuss here since the sentences used are ungrammatical in Tarifit.

Without covering all the literature in any greater detail for lack of space, the claim which associates the CS with case is difficult to maintain when some facts are considered. For instance, we have seen previously that the subject in VSO is marked for the CS, but this argument loses this marking when in SVO, as seen earlier. A similar sentence is repeated, as in (22):

- (22) *a-rgaz i-s ɤa ɔ̌-addar-θ.*
 SG-man 3M.SG-buy.PERF F-house-F
 ‘The man bought the house.’

Note that the subject in that sentence is an instance of topicalization. The same behaviour is also displayed by Taqbaylit, as in (23), where the topicalized subject in SVO loses its CS-marking:

- (23) *argaz-aki jə-ttfa.*
 man.FS-DEM 3MS.eat.PERF
 ‘This man ate.’

(Bendjaballah & Haiden 2013: 335)

Similarly, the subject loses its CS marking when extracted higher to the CP domain, as in (24):

- (24) *man a-rgaz n- [i-s ɤi-n ɔ̌-addar-θ]?*
 which SG-man COMP. 3M.SG-buy-PART F-house-F
 ‘Which man bought the house?’

This behaviour makes the claim that associates the CS with case difficult to maintain. In fact, this is one of the properties, which makes the CS in Berber

interesting and difficult to characterise since it is sensitive to the movement of chains, unlike case. If the CS is to be analysed as case, the DP will be expected to maintain its marking regardless of whether it is in situ or moved to a non-argument position. This includes *wh*-extractions and the topicalized subject in SVO. This prediction is not borne out by the facts⁴⁰.

Another argument against analysing the CS as case comes from the interesting behaviour of the CS in Taqbaylit Berber. The common environments which trigger the CS on the noun discussed earlier also apply to Taqbaylit, including the subject in VSO. So, the DP remains in the FS when it is the object, as in (25):

⁴⁰ Berber is known to have prepositions as substitutes for overt case morphology, including genitive which is expressed using the preposition *n-* 'of' as discussed in chapter four. However, instances like (i) below may suggest that it is the first DP which marks its complement (i.e. the second DP) for the CS (i.e. genitive case). If we go the argument that the CS is a manifestation of case, it appears as if genitive and case are somewhat related here. Constructions like these were also discussed by Ennaji (2001) and Ouhalla (1996).

- (i) a-mzzuɣ u-funas.
 SG-ear CS-cow
 'The bull's ear.'

The deletion of the preposition *n-* 'of' in (i) is due to an assimilation process which vocalises it with the following vowel. Evidence that the preposition is present in the syntax comes from the fact that the same element reappears when the noun is feminine or begins with a consonant, as in (ii):

- (ii) a-mzzuɣ n- ð-ø-funas.
 SG-ear of F-CS-cow
 'The cow's ear.'

There appears to be some cross-linguistic variations among Berber varieties. For instance, Taqbaylit, realises this process as: /n + w/ → pp^w (Bendjaballah and Haiden 2013). In Tarifit, the vocalisation of the preposition applies only when followed by a vowel. However, a less commonly used possibility is also found mainly in casual speech: /w + noun/, as an alternative to /u + noun/. It appears that the glide may be inserted in that case to compensate for the deletion of the preposition/consonant, which would be a requirement for the syllable to have an onset (Dell and Tangi 1992). All prepositions that are formed by a single consonant occupy the onset of the first syllable of their complement DP. When *n-* 'of' is deleted the syllable remains onsetless, which may explain the insertion of /w/. More on this in section 6.6.2.

- (25) jə- -ttfa aɕsum -ənni.
 3MS eat.PF meat.FS dem
 'He ate that meat.'

When doubled, however, that object interestingly gets marked for the CS, as in (26):

- (26) jə- -ttfa -θ wəɕsum -ənni.
 3MS eat.PF 3.M.SG.OBJ meat.CS DEM
 'He ate that meat.'

Bendjaballah and Haiden (2008:31)

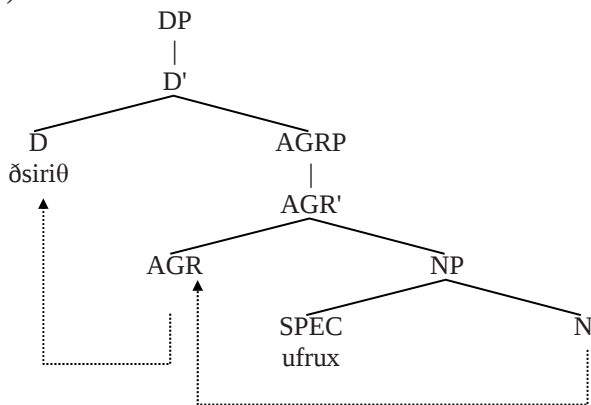
If the CS was to be analysed as case, according to this typology, the subject (in VSO) and the object in (26) would be marked for the same case. Note that this issue was also raised by Guerssel (1987, 1992) who argued against conflating the CS with case.

5.3.3 The Double-DP and the genitive case

Ennaji (2001) takes a somewhat reconciliatory approach between the genitive case analysis proposed by Ouhalla and the DP hypothesis put forward by Guerssel. He first notes the issue having to do with the co/overt realisation of *n-* 'of', which he attributes to the syntax. Ennaji argues that the co/overt realisation of the preposition yields two different structures. Let us start with cases, which do not make use of the overt preposition like (27), which according to Ennaji has the derivation, as in (28):

- (27) ɖ-siri-θ ʌ u-frux
 F-shoe-F ʌ CS-boy
 'The boy's shoe.'

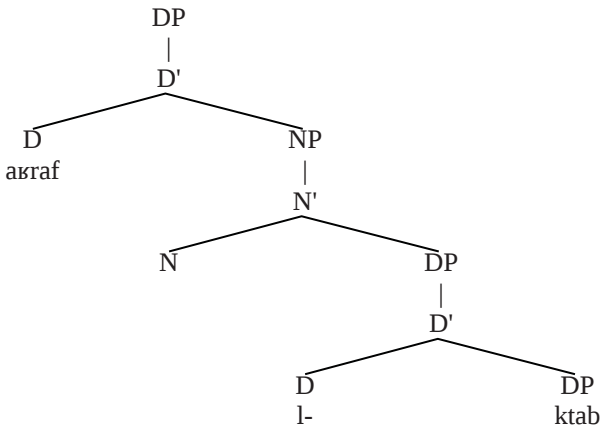
(28)



In (27), I am using the strikethrough line to indicate the absence of the preposition. The two NPs in (28) have an underlying representation where the possessum is the head of the NP whereas the possessor is in its specifier. The NP then projects to an AgrP and a DP. The possessum moves to check the genitive case under AGR and then proceeds to D. This claim is like Ouhalla's in that it assumes that cases which do not have the preposition at the surface implies that this preposition is not present in the syntax either. So, a functional projection above the NP in (28) is the only way for the genitive case to be checked. As for cases in which the preposition is required, this can be seen from (29) with the derivation schematised, as in (30):

- (29) a-~~kr~~af n lktab
 SG-cover of book
 'The book's cover.'

(30)



In (30), the lower DP has the possessor as the head of the NP and a determiner which occupies D⁴¹. As for the higher DP, this projection is occupied by the possessum which is under D. Given that the possessor is a DP, it cannot be marked for genitive case by the higher NP due to the intervening (lower) D occupied by *l-*. Consequently, the preposition *n-* ‘of’ is inserted to account for the genitive case. The analysis also predicts that the feminine marker should occupy D if the noun is feminine, like Guerssel’s, in that the morpheme is analysed as a definite article.

While the analysis looks at the CS, it puts more emphasis on the syntactic relations rather than the actual marking. For instance, the analysis offers no account as to why the noun *uḡruḡ* ‘boy’ in the Spec, DP in (28) is in the CS and subsequently marked for *u-*. Ennaji concedes that “...the formation of the CS in Berber is perhaps phonological, but it is unclear to what extent phonology and syntax interact. The genitive preposition *n-* is presumably omitted at PF for phonological reasons that are beyond the scope of this paper.” Ennaji (2001: 56-57). In my proposed analysis, I will show and defend the claim with further empirical evidence that the CS is a purely syntactic issue and cannot be phonological as Ennaji suggests. The question

⁴¹ The prefix *l-* occupying D, in (30), is borrowed from Moroccan Arabic and used in that language as a definite marker. The same marker is also found in standard Arabic as *al-*. Ennaji argues that the morphosyntactic property of this article is maintained in Tamazight. This claim will be evaluated in the context of Tarifit immediately after presenting Ennaji’s analysis.

as to how syntax and phonology interact, which Ennaji leaves open, is an important one. I show in section 6.6.2 how this relationship can be better articulated within my proposed analysis.

As for the idea of postulating two DPs for a structure like (30), this is due to the presence of *l-* which Ennaji analyses as a definite article in Tamazight. This element is also used in Tarifit with some borrowed nouns from Arabic. While the article is [+DEFINITE] in Arabic, this feature is not maintained with borrowed nouns in Tarifit in that the *l-* becomes grammatically frozen and therefore part of the root. So, it cannot be analysed as D since the element is not a morpheme anymore. Furthermore, the analysis predicts that all nouns with a consonant in the initial position should project into a lower DP. If the insertion of *n-* ‘of’ applies whenever a noun starts with a consonant indiscriminately, regardless of whether the consonant is feminine or part of the root, the evidence for postulating a lower DP disappears in that all consonants which trigger the insertion of the preposition are part of the root, except for feminine, and these consonants have no reason to be under D.

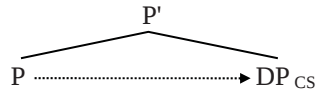
5.4 The Analysis

The aim of this section is to first show that the CS is a language-specific phenomenon that arises from a particular syntactic relation involving two functional heads: T (-ense) and P. So, the DP is marked for CS by T when it is the subject in VS(O) and marked by P when the DP is its complement in a PP projection. Outside these environments, the DP takes the unmarked/neutral form which is then interpreted as the FS. In section 6.4.3, further empirical evidence is provided in support of the claim that the property of the CS head is exclusive to P and T. This includes a functional element which is often analysed in the Berber linguistic literature as a coordinator (*ǧ-* ‘and’) and some other elements which are not often discussed in the literature. Before looking at these issues, and to get a much clearer picture about this structural relation, the CS and the FS configurations are formally identified next.

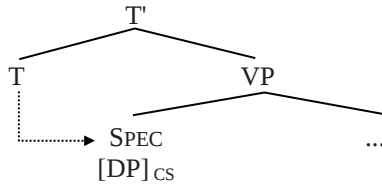
5.4.1 The Construct State

As discussed earlier, it was shown that the DP gets marked for the CS when it is the complement of a preposition or the post-verbal subject. These two configurations are schematised, as in (31)-(32), respectively:

(31)

 $[_{P'} P [NP]]:$ 

(32)

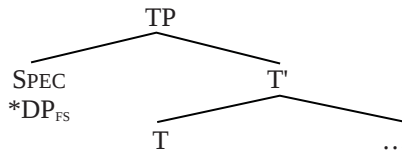
 $[_{T'} T [_{VP} SPEC-NP]]:$ 

The first configuration, in (31), involves a structural relation between a P-head and its complement DP and the second, in (32), involves a relation between T and the subject in Spec, VP. The result of this relation yields the CS marking on the DP. It is also worth noting that despite the surface differences between (31) and (32), the two configurations are still similar in that the position of the DP in both cases is in a structural relation with an immediately c-commanding head.

5.4.2 The Free State

The environments where the noun is in the FS are three. First, it is found in the verbal clause in which the subject is in the pre-verbal position (SVO), as in (33):

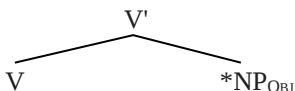
(33)

 $[_{TP} SPEC-TP[_{T'} T]]:$ 

On the assumption that the subject is in Spec, TP, that DP loses its marking once moved there and is always in the FS⁴².

The second environment has to do with the configuration involving the verb and its object, as in (34):

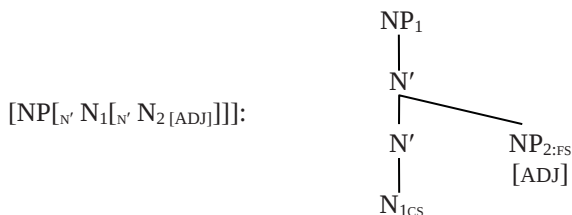
(34)



Although the verb c-commands the object, in (34), it does not mark it for the CS. This is predicted by the proposed hypothesis. If T is the only CS marker in a verbal clause, the fact that the object is in the FS will be expected since the c-commanding head is V, in (34).

The third environment is concerned with adjectives which are nominal modifiers, as discussed earlier. Although the morphology of these nominals is identical to the nouns they modify, they cannot be marked for CS, as in (35):

(35)



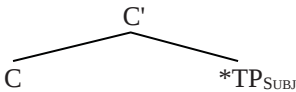
Assuming that the derivation above is the extension of the constituent which projects the post-verbal subject in Spec, VP seen in (32), with an additional nominal modifier following the NP – head, the real argument – subject which I represent, in (35), as NP₁ gets marked for the CS while its modifier (NP₂) that follows remains in the FS.

⁴² See chapter six on word order where it is argued that the subject in SVO is topicalised in Spec, TP, rather than in some higher functional topic position in the left periphery.

5.4.3 The Construct State as a c-command relation

Now that the environments, which trigger the CS on the DP and the ones that do not are formally identified, these structures clearly suggest that this syntactic relation holds only when the CS head is P or T. Although the structures discussed above in (31)-(32) look somewhat different on the surface, a close examination of the two configurations suggests that they are syntactically similar, in that both heads involve P and T which immediately c-command and subsequently mark their DP for the CS. Evidence in support of the claim that the CS is exclusive to T and P can be seen from other cases such as the preverbal subject in SV (O), which remains in FS. On the assumption that the verbal clause projects a CP above TP, regardless of whether this projection is overtly filled or not, C should then c-command the preverbal subject in Spec,TP but it does not mark it for CS, as seen in (33). A similar structure is repeated as in (36)⁴³:

(36)



If the CS marking is exclusive to P and T, the fact that C does not mark the subject for the CS in Spec, TP will be expected. This clearly suggests that this language-specific phenomenon is sensitive to a head that is P or T but cannot be extended to other heads.

Identifying the exact heads that trigger the CS on the DP may also explain the CS-marking discrepancy found with some other elements, in that some mark their DPs for the CS whereas others do not. Consider the nominal copula *ǝ-*, in (37):

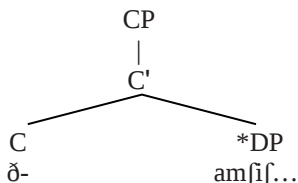
⁴³ C as a non-CS marker applies, regardless of whether that position is overt or covert. In an embedded clause like (i) below, the presence of the complementiser *qa* 'that' has no effect on the CS in that the preverbal subject, which is c-commanded by C, is always in the FS:

- (i) i-nna-aj qa ǝ-a-mkar-θ ins
 3M.SG-tell.PERF-1SG.ACC COMP F-SG-woman-F 3M.SG.POSS
 ǝ-uɣur.
 3F.SG-go.PERF
 'He told me that his wife left.'

- (37) δ - a-mɿɿf ig- i-ɿɿi-n a-ɕsum.
 COP. SG-cat COMP. 3M.SG-eat.PART SG-meat
 'It is the cat that ate the meat.'

As seen chapter four, this element always selects a DP but does not mark it for the CS. This functional element, in (37) is used to mark its DP for contrastive focus. Its presence as a prefix to the noun implies that 'it is the cat that ate the meat, not the dog'. If we assume that discourse features like focus project in the CP domain, and granting that the head which encodes this feature is the nominal copula under C, its failure to mark the DP for CS will then be expected, since the head in this case is C, not P or T. A simplified derivation of (37) is schematised, as in (38):

(38)



The derivation in (38) is like (36), in that the configuration still involves a syntactic relation between a DP and a higher c-commanding head that is C. Cases like the nominal copula and the complementiser are often reported in the Berber linguistic literature as non-CS markers but no clear argument is provided to justify their inability to CS-mark their DP. If CS is exclusive to P and T, as argued in this chapter, other heads that do not fall within this category will be ruled out naturally.

The exact syntactic property of the heads which trigger the CS marking on the DP may also explain another related phenomenon involving a kind of coordination that conjoins two DPs using the morpheme δ - 'and', as in (39):

- (39) δ -a-mɿkar-θ δ - u-qzin ins.
 F-SG-woman-F and CS-dog 3SG.POSS
 'The woman and her dog.'

This coordination was discussed in chapter four. Interestingly, this morpheme is homophonous with the nominal copula discussed above but differs in that the nominal coordinator marks the DP it selects for the CS whereas the element, in (37), does not. If we assume that the structure of the coordinate phrase is headed by the coordinator δ - 'and' (Pesetsky 1982,

Kayne 1994, Progovac 1998b among others), and if *ǝ-* ‘and’ is a coordinating conjunct occupying C, a functional element like *ǝ-* should not be expected to CS-mark the DP it selects but the data, in (39), suggests otherwise. In fact, this appears to contradict our previous argument that C cannot be a CS-marker. However, there are independent reasons to question the grammatical status of what is standardly referred to as the ‘conjunct’. First, we showed in chapter four that this morpheme is only used to join DPs but cannot be used to join verbal clauses. Secondly, there are other functional elements that are also conjuncts but behave different from *ǝ-* ‘and’, in the sense that they do not mark the DP they select for the CS. This can be seen from (40)-(41):

- (40) a-mǝǝf nix a-qzin.
 SG-cat or SG-dog
 ‘A cat or a dog.’

- (41) uyur-n nix qim-n.
 go.PERF-3M.PL or stay.PERF-3M.PL
 ‘They leave or they stay.’

The element *nix* ‘or’ behaves like a typical conjunct, as in English, in that it can select either a DP, as in (40), or a VP, as in (41). In the former case, however, the conjunct does not mark its complement for the CS⁴⁴.

If conjuncts were CS-markers, they would be expected to display a systematic pattern in relation to the State issue but this is not supported by the data, in (40). This suggests that *ǝ-* ‘and’ does not seem to have the characteristics of a conjunct. Its behaviour makes it syntactically identical to a preposition since it selects a DP and subsequently marks it for the CS. In view of this, it can then be argued that what is generally referred to in the Berber linguistic literature as a coordinating conjunct looks more likely to be another preposition. The fact that ‘and’ is expressed using a preposition is not unique to Berber but seems to be cross-linguistically common, as pointed out in chapter four. So, the difference between *ǝ-* ‘and’ and other prepositions may have to do with their semantic meaning which is not relevant to the CS. This will be expected if the CS is sensitive to syntactic information only.

Aside from the cases discussed above, there are two additional elements which CS-mark the DP they select; these are *bu-* and *mu-*. An example of

⁴⁴ This is consistent with the behaviour of another conjunct: *ma/a* ‘but’. This element can also select a NP or a VP. When it selects a NP, it does not mark it for the CS.

how these are used in the sentence can be seen from (42)-(43):

(42) **bu-** ḏ-ə-ʔman-t.

BU F-CS-turban

‘The one_{MASC} with a turban.’

(43) **mu-** ḏ-ə-çmbuʃ-θ.

MU F-CS-shawl-F

‘The one_F with a shawl.’

Due to the fact they are not often discussed in the works exploring the Berber CS, no work that I am aware of has addressed or categorized these elements as parts of speech⁴⁵. A first-hand examination of *bu-* and *mu-* reveals that they are marked for gender. This may suggest that they are nominal categories, bearing in mind that this morphology is a peculiarity of nouns. However, this possibility is challenged by two other properties which make the two elements look more like prepositions: (1) they mark the DP they select for the CS, and (2) they encode genitive meaning knowing that the latter property in Berber is expressed using the preposition *n-* ‘of’. So, the natural question is how can these somewhat conflicting properties be reconciled? I believe that the grammatical status of *bu-* and *mu-* is solvable if their morphosyntax is carefully considered. In strict morphological terms, the morphemes which alternate between masculine and feminine are *b-* and *m-*, respectively. If gender is neutralised and identified separately, we then have evidence that the two elements are morphologically decomposable. That way, the invariable morpheme *-u-* can be argued to be associated with the genitive meaning since that meaning is maintained, regardless of gender. Furthermore, and since the logical meaning of the two elements in (42)-(43) refers to a person/possessor that is only understood from the context, it can be argued that gender is associated with an elided/phonetically empty possessor/DP. Taking all these facts together, I propose the following syntactic derivation for *bu-/mu-*:

(44) [_{DP} D, *m-/b-*[_{NP} N *∅*][_{PP} P, *-u-*][_{DP}[_{NP} N_{CS}]]].

In (44), the head of the DP is filled with *m-* or *b-* dependent on gender. The DP then selects a PP headed by the preposition *-u-* with a genitive meaning, which in turn selects a DP/possessum and subsequently marks it for the CS. There are several advantages to this hypothesis. First, analysing *-u-* as a preposition would be consistent with the typology of Berber, given that

⁴⁵ For instance, Cadi (1987) and Dell and Jebbour (1995) did report that these elements are CS-markers but did not examine their categorial property.

genitive is expressed by the preposition *n-* ‘of’⁴⁶. This hypothesis would bring *b/mu-* together with other prepositions, which would then be consistent with the general proposal that all prepositions in Tarifit mark their DP for the CS. Under this approach, it could be argued that Tarifit has diachronically developed a more consistent system of CS whereby all prepositions are CS-markers⁴⁷. If our hypothesis is on the right footing in the sense that elements like *ð-* ‘and’ and *m/bu-* are prepositions, a generalisation can then be proposed whereby the heads which enter into a c-command relation with, and subsequently mark, their DP for the CS must be P or T. This generalisation is represented, as in (45)⁴⁸:

- (45) *X CS-marks its DP under ‘closest c-command’ iff X is a head, where the head is T or P.*

Under this generalisation, the CS heads that take part in the structural relation stated above are reduced to two syntactic heads and any heads other

⁴⁶ What makes this hypothesis even more consistent is that there is an additional case where genitive/possessive is expressed using another preposition. The preposition *ka-* below in (i) selects a dative clitic pronoun yielding genitive/possessive meaning. The same construction is expressed in English using the verb ‘have’ as can be seen from the sentence. Note that this construction in Tarifit cannot be a verb because it resists any verbal inflection, including tense/aspect. The question as to why the preposition *ka* ‘to’ does not mark the DP *aqzin* ‘dog’ for the CS may be due to the presence of the dative clitic. That is, the preposition selects the dative clitic, not the DP. So, the complex *ka-s* ‘to him_{DAT}’ would be a PP, not P, if pronominal clitics are analysed as arguments/DPs as argued in chapter eight.

- (i) *ka-s* *a-qzin*.
to-3.SG.DAT. SG-dog
‘S/he has a dog.’

⁴⁷ Note that the two elements can also be used more like idioms, mainly when the DP refers to some part of the body. In that case, the DP/possessum is interpreted as having a negative connotation: *b/mu-* + NP_[mouth/nose] = ‘someone with an ugly mouth/nose’ etc.

⁴⁸ Note that ‘closest c-command’ still accounts for cases where some adverbial elements are positioned between the CS-head and its c-commanding head, as in (i):

- (i) *i-zzər* *gi* *ð-isi* *u-frux* *-in*.
3M.SG-lie.PERF in F-floor CS-boy DEM
‘That boy lies on the floor.’

In this sentence, the PP adjunct is linearly used between the verb and the subject, yet the latter DP is still marked for the CS.

than these two are excluded from this relation. Next, the chapter examines the status of adjuncts in the CS configuration.

5.5 Syntax as the locus of Construct State

What we have established at this stage is that the CS is concerned with syntax. This section takes the study of the phenomenon a step further by paying particular attention to two issues. The first one has to do with the CS and the semantic interface. For instance, we showed that the semantic interpretation of the sentence has no impact on the CS, including idiomatic expressions and the semantic meaning of prepositions. I show how the DM framework predicts this typology since the semantic component under this theory has an interpretive role only. The second point has to do with the morphosyntactic structure of the DP. The chapter argues that a syntactic approach to the morphology of the noun, as argued in chapter three, also makes some interesting predictions relative to how the CS is marked on the DP.

Starting with the point having to do with semantics, I showed that the CS holds regardless of whether the construction has a literal or an idiomatic meaning. Under a standard lexicalist approach, idiomatic expressions are generally argued to be formed in the lexicon because they encode special (semantic) meaning. By contrast, DM assumes that idioms together with words and sentences are construed by the syntax. In fact, a lexicalist approach to idioms and idiomatic expressions would be problematic for the CS. If the latter phenomenon is syntactic as we established, then the marking should not be expected to apply to idioms if these are formed in the lexicon. But it was shown earlier that this is not supported by the facts⁴⁹. In fact, Marantz (1997) argues that the semantic meaning of any derivation, including words, idiomatic expressions, and sentences, is not present during the syntactic derivation but is read off the syntactic structure by the Encyclopaedia. With this in mind, and if the CS is a syntactic configuration as we argue, and if that configuration always holds regardless of whether the sentence has a literal or an idiomatic meaning, we then have evidence

⁴⁹ There are many other constructions that can be interpreted as idioms, but the relevant DP is still marked for the CS, regardless. For instance, the example below is a clear idiom, but the DP is still marked for the CS by the preposition.

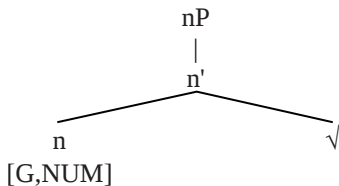
- (i) βatata (n) u-kʃʃuð.
 potato.F of CS-wood
 ‘Sweet-potatoe.’

that idioms are construed by the syntax since they are marked for the CS.

As for the second point having to do with how the CS is marked on the DP, I believe that this typology can also be better articulated within the proposed framework if the structure of words is assumed to be formed in the syntax, as argued in chapter three. As we will see, this provides a theoretical basis for some marking alternations of the CS and its interaction with the functional category of the noun.

When surveying the Berber linguistic literature on the structure of the nominal category, and regardless of their differences, all the works share the view that the noun has two main projections. The DP headed by the prefixes marking gender and number, which then selects an NP represented by the lexical root (Jebbour 1988, Ouhalla 1988, Guerssel 1992, Dell and Jebbour 1995, El Moujahid 1997, Idrissi 2001, among others). Under a more radical syntactic approach to word formation as argued in chapter three, what is generally analysed as the basic nominal lexical category is a category-less root which can only be interpreted as a noun when combined with the nominal functional head represented by the *n*-node, as in (46):

(46)



This modular approach now splits the structure along two different lines. A root-node represented by the category-less root which contains encyclopaedic information, but devoid of any grammatical information, and a separate *n*-node which contains categorial/grammatical features represented by gender and number, being the only morphosyntactic features available to nouns in Tarifit and in Berber more broadly.

In the previous chapter on the morphology of noun classes, it was established that nouns may have number in the prefix position overtly marked or that position may be null. These cases repeated as in (47a&b):

(47)

SINGULAR	PLURAL
a. a-βrið SG-road	i-βrið-n PL-road-PL
b. ø-awar SG-talk	ø-awar-n PL-talk-PL

I refer to the nouns, (47a), as inflectional nouns and to the nouns, in (47b), as root nouns. This morphology impacts on the way these noun sets are marked for the CS. To illustrate how these nouns inflect for the CS, their structure is represented as in (48):

(48)

FREE STATE		CONSTRUCT STATE	
INFLECTIONAL- NOUNS	ROOT- NOUNS	INFLECTIONAL- NOUNS	ROOT- NOUNS
<pre> nP / \ n √ a- βrið SG 'road' </pre>	<pre> nP / \ n √ ø- awar NUM 'talk' </pre>	<pre> nP / \ n √ u- βrið CS 'road' </pre>	<pre> nP / \ n √ u- awar CS 'talk' </pre>

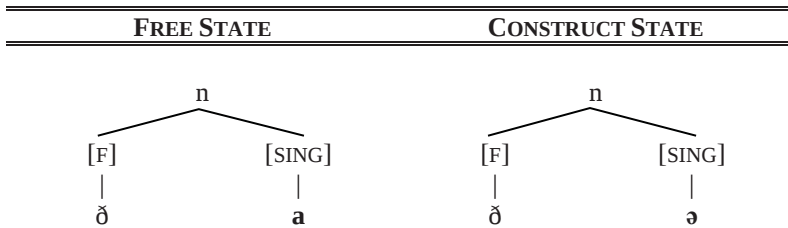
Relevant to current analysis is the way the CS alternates with number at the surface. Inflectional-nouns receive their CS-marking through the substitution of number whereas root-nouns receive the same marking by direct insertion, since there is no overt number to alternate with. To make sense of this typology into the present framework, the structure in (48) shows that the marking applies to the functional category-defining head and that the surface realisation of the DP (whether the functional category is overt or covert) has no impact on the State marking. So, when the noun is in the CS it gets marked by *u-* and when it is in the FS (i.e. the unmarked form) the noun is simply marked for number/singular with the choice of either *a-* or *ø-*, depending on the morphology of the noun. The exact structural position where the marking takes place is consistent and systematic throughout, in that it is marked on the functional category of the noun. This typology receives a straightforward account within the proposed analysis. If the structure of the DP is syntactically formed by merging a

category-less root and a functional category-defining head as argued in chapter three, this will imply that there are two projections which correspond to two different domains: a syntactic domain represented by the functional category (i.e. *n*-node) and another domain devoid of any syntactic information occupied by the category-less root, which contains encyclopaedic information only. Viewing grammar along these lines may explain why the CS gets marked on the functional head and never on the root. If the phenomenon under investigation is syntactic, as we argue here, its marking on the functional head and not on the root should be expected in that it is the head that contains grammatical information relevant to the syntax while the root is a syntactically deficient lexical item. The root needs to merge, first, with the functional category defining head prior to any other syntactic merging operations. So, what looked more like a phonological process turns out to be a purely syntactic issue. This morphosyntactic behaviour of the CS I believe can only be adequately understood through a decompositional approach to nouns having a complex structure formed in the syntax. The analysis clearly shows that the CS targets the functional head which encodes grammatical information while the root having only semantic/encyclopaedic information is excluded from this syntactic relation. Considering that the CS-heads are P and T, and granting that the marking applies to the functional nominal head, this points to the fact that what does the marking and what is marked is a relation between two functional heads, which appear to have some privileged features in the syntax allowing the CS configuration to converge. This would be justified by the proposed theory in that functional categories are the only terminals that encode grammatical information. So, decomposing the structure of the DP along grammatical/syntactic and semantic lines allows for a neat and formal characterisation of the phenomenon under investigation. The CS functional head (P, T) having formal grammatical features enters in a c-command relation with another functional head which encodes grammatical information on the noun.

By defending a syntactic approach to word formation, Marantz (1997) claims that syntax can target elements smaller or larger than words. In the case of the CS configuration, the exact head that gets marked is the *n*-node, and not necessarily the lexical root. So, it could be argued that the target in this case is smaller than the word/noun. Although the CS appears to be phonologically sensitive to a vowel, yet the initial vowel which is part of the root is immune to such marking. This can be noticed from the root $\sqrt{\text{awar}}$ 'talk', in (48), which remains unchanged in that it is neither affected by nor relevant to the syntactic configuration under investigation. So, what

appeared to be a phonological issue turned out to be syntactic in that the marking is blocked from applying on the initial vowel of the root on structural ground. A possible question which may be raised is, why is it that the CS at the surface is marked on number and not on gender since the nominal functional category encodes both features? The gender and number morpheme on the noun are illustrated, as in (49):

(49)



The association of the CS with number can be argued to be phonologically motivated. That is, the CS is still marked on the functional head, which dominates the feature bundle '[G, NUM]' but when the configuration is sent for interpretation by the phonological component, the marking shows up at Spell-out on number. So, the *n*-node in the feminine – singular form is spelt out as *ð**a*- in the FS and as *ð**ʔ*- in the CS. Furthermore, the CS-marking being displayed on number in the surface representation has no impact on the actual feature. Syntactically, the [NUM] feature is still present in the syntax since the meaning of the noun, regardless of its State marking, still encodes number. Under the present framework, the functional category which encodes [+F, +NUM] acquires an additional [+CS] feature that is embedded in the same node arguably through the morphological process of fusion. Evidence that number is syntactically present can be noticed from a nominal clause when used with a modifying adjective. In that case, the adjective always agrees in number and gender with the noun it modifies, regardless of the State marking of that noun.

5.6 The Construct State and the PF interface

This section examines the phonological implications of the CS. More specifically, it deals with the stage of the derivation when the syntactic output is sent to PF for interpretation. Within the DM framework, phonology as a post-syntactic component follows only from what is provided by the syntax and its application operates under vocabulary insertion. Two main issues are examined in this part. 'Section 6.6.1'

formally accounts for the CS allomorphy using statable morphological rules and ‘section 6.6.2’ looks at how the CS configuration is spelt out at the PF interface.

5.6.1 **The Construct State allomorphy**

The CS allomorphy may be subject to some parametric variations between Berber languages. In this section, I first provide the Tarifit allomorphy followed by a discussion of some literature on this allomorphic variation, which will lead me to argue in favour of an underlying form (i.e. morpheme) over another (i.e. allomorph). After identifying all the allomorphs, the sets of formal statable rules that capture this morphological system are then proposed.

The CS allomorphy is dependent on the inflectional system of nouns in the prefix position, as pointed out earlier. With the inflectional-class, masculine-singular nouns realise their CS, as *u-* (50a), plural nouns as *i-* (50b) and feminine nouns as *ə-* (50c-d):

(50)

INFLECTIONAL CLASS	
FS FORM	CS FORM
a. a-mʃiʃ	u -mʃiʃ
SG-cat	CS-cat
b. i-mʃiʃ-n	i -mʃiʃ-n
PL-cat-PL	CS-cat
c. ə-a-mʃiʃ-θ	ə-ə -mʃiʃ-θ
F-SG-cat- F	F-CS-cat-F
d. ə-i-mʃiʃ-i-n	ə-ə -mʃiʃ-i-n
F-PL-cat-F.PL-PL	F-CS-cat-F.PL-PL

For the root-class, the CS is realised as *w-* when the initial vowel that is part of the root is /a/ or /u/, as in (51a-b) and as *j-* when the vowel is /i/ as (51c). The marking is covert when the noun is feminine, as in (51d-f):

(51)

ROOT CLASS

FS FORM	CS FORM
a. awar	w-awar
talk	CS-talk
b. uʃən	w-uʃən
wolf	CS-wolf
c. izi	j-izi
‘Fly’	CS-fly
d. ǝ-ariw-i-n	ǝ-ariw-i-n
F-spring-F.PL-PL	F-spring-F.PL-PL
e. ǝ-uʃən-t	ǝ-uʃən-t
F-wolf-F	F-wolf-F
f. ǝ-izi-t	ǝ-izi-t
F-fly-F	F-fly-F
‘Mosquito.’	‘Mosquito.’

I wish to make three points relative to this allomorphy, having to do mainly with some parametric variation. The first one has to do with the CS form of the inflectional class in feminine, represented here with a schwa. Some works, like Guerssel (1983, 1992), use the null symbol. For Tarifit, the latter option is limited to some minority nouns whose [NUM] feature in the prefix position is not overtly marked. So, I choose the schwa as the morpheme based on the majority criterion. The second point has to do with the alternation between the glide found with the root-class and the high vowel morpheme *u-* found with the inflectional class. Some works, including Guerssel (1983, 1986, 1992), Idrissi (2001), Bendjaballah and Haiden (2013) use the glide as the morpheme but other works including Ouhalla (1988, 1996), El Moujahid (1997), Tangi (1991), Dell and Tangi (1992) use *u-* as the CS morpheme. In this chapter, I maintain that the latter option is the correct one for Tarifit, at least, based on the majority criterion. The morpheme *w-* is only found with the root-class, which is a minority. This class represents only 3% within the morphology of nouns in Tamazight, according to Idrissi’s (2001) statistical corpus⁵⁰. The third point has to do

⁵⁰ Some studies on Berber phonology have argued that high vowels and glides are the same in the underlying representation (Idrissi 2001, Bendjaballah & Haiden 2008; 2013). The hypothesis is based on the fact that these vocoids share the feature

with the allomorphy of the inflectional class in masculine-plural (50b). The two States appear to be homophonous in that both make use of *i-*. Note that homophony between the two States is not exclusive to this class but is also found with root-nouns that have consonant-initial (51d-f). In their work on Taqbaylit of Chemini, Bendjaballah & Haiden (2013) argue that the underlying CS morpheme for these nouns is *jə-*, referring to Chaker (1995) and Memmeri (1986). While this typology may be true for Taqbaylit, this is not shared by Tarifit. It must be pointed out though that the form involving the glide is found with the CS DP when selected by the allative preposition *a-* (*a- jə- mfi/-n*: to CS-cat-PL ‘to the cats’). Outside this environment, using a glide with this class of nouns is ungrammatical⁵¹. The difference between surface phonetic representations and underlying phonological representations can easily be detected in casual (phonetic) versus careful (phonological)

[+HIGH] but are unspecified for syllabicity. They then acquire a consonant status when inserted in the onset and a vowel status when inserted in the nucleus. While this view may be appealing when used in the broad Berber phonology, it is more costly when implemented in the morphological rules proposed, in (53), which make specific reference to the State context and noun-classes. We would have to postulate a vocoid that is specified for [+HIGH, +CS] in the phonological component. Following Vocabulary Insertion, two additional readjustment rules are needed: one rule turns the vocoid into an onset and another rule which turns it into a nucleus. Under the proposed analysis, once the CS morpheme *u-* is established as the general case, only one readjustment rule is needed, which turns the syllabic sound into non-syllabic, as stated in (52). But this hypothesis recognises the difference in phonology between glides and high vowels.

On a more empirical level, it is also worth noting that these authors base their hypothesis on the view that there are vocoids that are stable vowels, referring to Guerssel (1986), but not glides. In Tarifit, however, there are also glides that not only do not alternate with high vowels but represent minimal pairs with their high vowel counterparts: $\sqrt{su}$ ‘drink’ $\leftrightarrow \sqrt{sw}$ ‘flatten’, $\sqrt{zu}$ ‘visit’ $\leftrightarrow \sqrt{zw}$ ‘warm’, $\sqrt{qu}$ ‘dry’ $\leftrightarrow \sqrt{qw}$ ‘perform sexual intercourse’ etc. The fact that /u/ and /w/ change the meaning of the lexical root is evidence that they should be treated as separate sounds in phonology.

⁵¹ Bendjaballah and Haiden’s argument in favour of *jə-* over *i-* has theoretically ramifications. The possibility that masculine-plural nouns being homophonous in both States threatened their templatic analysis, in that *i-* as a CS-marker would leave them short of one vowel slot in phonology. This is based on the assumption that full vowels in Taqbaylit are long and therefore need two vowel slots in the skeleton. The proposed analysis can accommodate either form (*i-* or *jə-*). If the CS morpheme with these nouns is *jə-*, the exponent can then take part in the competition for insertion, instead of *i-* (see rules (53)). I also show in the next section that the actual form has no impact on phonology under a standard linear approach.

speech. The glide is ruled out in both contexts with the cases mentioned. In view of this, and following other works (Ouhalla 1988; 1996, El Moujahid 1997), I argue that the basic CS morpheme is *i-*. So, the CS allomorphs are *u-*, *i-*, *ə-* and *∅* which applies to root-nouns in feminine. The readjustment rule that changes the vowel into a corresponding glide is stated as in (52). Note that the rule as it stands is relevant insofar as it captures the allomorphy of these masculine-singular nouns, but the rule is further refined when the syllabic structure is discussed in the next section.

$$(52) \quad [+SYLLABIC] \rightarrow [-SYLLABIC] / __ V$$

Under the proposed analysis, syntactic terminal nodes are supplied for their phonological content by Vocabulary Insertion. The fact that phonological exponents are also specified for their syntactic features, according to the analysis, yields two sets of morphemes. One set is specified for [+CS] and another set is specified for [-CS]. The exponents that are [+CS] are the four CS morphemes identified above, whereas the ones that are [-CS] represent the default form (unmarked/neutral form), which I refer to in the proposed rules as ZERO⁵². Since gender in Berber is marked for feminine only while masculine is the unmarked form, the former is referred to as [+F] whereas the latter is referred to as [-F]. The rules which are responsible for the insertion of the relevant morphemes are represented as (53):

(53)

- i. [+CS] ↔ /u-/ / __INFL. Class: [+SG, -F]
- ii. [+CS] ↔ /ə-/ / __INFL. Class: [+F]
- iii. [+CS] ↔ /i-/ / __INFL. Class: [+PL]
- iv. [+CS] ↔ /∅/ / __ Root. Class: [+F]
- v. [-CS] ↔ ZERO elsewhere

When the CS derivation is handed over to the phonological component, the [+CS] exponents which are all eligible for insertion are activated and take part in the competition of insertion. Under Halle's (1997: 427) subset principle, vocabulary insertion ensures that /u/ is inserted on the inflected-class that is masculine/[-F] – singular, as in (53-i), /ə/ is inserted on the

⁵² I am making a distinction here between /∅/ which makes reference to the covert marking of the CS, i.e. there is a slot which inhibits the CS feature provided by the syntax but has no phonological realization, and 'ZERO' which indicates the absence of any marking (syntactic or phonological). This is represented by the FS which is the non-marked form.

inflected-class that is feminine, as in (53-ii), *i-* is inserted on the inflected-noun that is masculine plural, as in (53-iii) and /ø/ is inserted on the root feminine nouns, as in (53-iv). As for the FS DPs which are [-CS], their feature is spelt out as ZERO (i.e. the unmarked form), which is then interpreted as the FS by default, as in (53-v).

5.6.2 The Construct State as a phonological word

This section explores some phonological implications, which may shed more light on the phenomenon under investigation at the PF interface. More specifically, it deals with the stage of the derivation when the syntactic output is sent to the phonological component for interpretation, and syntactic terminal nodes are supplied with their phonological content. My underlying argument, in this last section before concluding, is to show that the two syntactic nodes involved in the CS configuration are spelt out in phonology as one phonological word (PhW)⁵³.

The view that the CS DP and its c-commanding head are realised as one PhW is not new and was noted, first, by Chaker (1983) and by Ouhalla (1996). On his work on Taqbaylit Berber spoken in Algeria, Chaker states that “*Sur le plan prosodique, l’Expansion référentielle est étroitement soudée au syntagme verbal; elle le suit sans pause ni rupture.*” (At the prosodic level, the referential element [i.e. lexical subject] is closely linked to the verb which follows it without a pause” (Chaker 1983: 277), adding that “... le S.P.V. [sujet prédicatif verbal] avec lequel elle constitue un ensemble prosodique homogène” (... the post-verbal subject with which [the verb] forms the same prosodic unit.) (Chaker 1983: 279)). Similarly, Ouhalla argues from Tarifit “... that the noun phrase said to be in the CS forms a single word with the head category preceding it” (Ouhalla 1996: 293)⁵⁴. Ouhalla provides some phonological evidence in support of the

⁵³ I am using the term ‘PhW’ in the sense that the CS DP becomes part of the phonological domain of the head that selects it. Under this view, when syntactic terminal nodes are provided by their phonological content, the DP and its c-commanding head are spelt out as one PhW because they share the same phonological domain.

⁵⁴ It should be pointed out though that Ouhalla’s approach to the CS is different than the one adopted here. Ouhalla argues that CS is a manifestation of case as pointed out earlier but what is referred to as the CS, according to him, has no syntactic basis but it is simply a phonological phenomenon where the CS DP forms a PhW with its higher head. At the end of this section, I show that cases that are driven by purely phonological processes, such as adjacency, are different from the CS.

claim, some of which is discussed later in this section. It is this claim that I wish to pursue here and show how this can be better articulated under the late insertion hypothesis where phonology interprets the syntactic output. Before doing that, a discussion on some major works on the phonology of Berber relative to the CS is provided next.

The morpho-phonology of the CS in Berber was subject to some treatment in the literature (Guerssel 1983, Dell and Jebbour 1992, Idrissi 2001, Bendjaballah and Haiden 2008; 2013). Earlier works which adopted a purely phonological approach derives the CS allomorphy through phonological rules. For instance, Guerssel (1983) argues that the underlying form of the CS for masculine singular nouns is: *w-a-funas* ‘CS-SG-cow’. Two rules then apply; one deletes the singular marker and the second one changes *w-* into *u-* when followed by a consonant yielding the surface form: *u-funas* ‘CS-cow’. With the rules stated in (53), we showed that once reference is made to the grammatical contexts and the noun classes which trigger the CS allomorphy, these derivational rules are neither necessary nor needed.

Other works on the morpho-phonology of Berber which looked at the CS adopting a templatic approach include Idrissi (2001), Bendjaballah and Haiden (2008, 2013). The bulk of the templatic approach is that morphosyntactic features fit into pre-specified syllabic templates in phonology. Crucial to these analyses are: (1) the syllabic algorithm of Berber is CV, following a proposal put forward by Guerssel (1990), and (2) the three full vowels of the language (i.e. /a/, /i/ and /u/) are long and therefore need two vowel slots for them to be realised in phonology.

Idrissi (2001) argues that any morphosyntactic exponent has its own CV template. For instance, masculine nouns have only one prefix and should therefore have one CV in the phonological component. Conversely, feminine nouns have two prefixes since they are marked for gender and number and should therefore have two CV templates in phonology. In an example like: *ǝ-a-mka-θ* ‘F-SG-woman-F’, the onset of the first CV is filled with the feminine marker *ǝ-* and the nucleus in both templates is filled with the singular marker on the basis of the fact that /a/ is a long vowel. Idrissi is then faced with the problem of what happens when the noun is masculine since it has one prefix and therefore one CV but the vowel /a/ requires two vowel slots. He argues that the second slot of the vowel is provided by the preceding word if that word ends with a consonant. If the final sound is a vowel, a glide emerges which correlates with a new CV as can be seen from the VO sequence in (54). The onset of the new template is then occupied by

the glide and the nucleus provides the position for the second vowel slot of the vowel /a/ which is part of the noun *azyaw* ‘basket’. On the other hand, when the masculine noun is preceded by nothing, Idrissi shifts the argument around and claims that the vowels which are prefixes are not long on the assumption that alternating vocoids are not underlyingly full vowels since they become glides if the syllabic context is the onset.

(54) [žr y azyaw] ‘throw the basket’ (Idrissi 2001: 62)

The problem with this analysis, if applied to Tarifit, is that it does not consider the grammatical context of the noun. In Tarifit, the glide may be inserted with the initial vowel that is part of the root (i.e. the presumable full vowel) only if the noun is in the CS but no glide is inserted if the noun is in the FS, regardless of the morphology of the noun (inflectional or root-nouns): VS → iðwa j-izi ‘he.flew_{CS}-fly’ versus VO → *inka izi* ‘he.killed fly_{FS}’. The fact that the initial vowel of the object is part of the root and therefore a full vowel requires two vowel slots, but the preceding word cannot provide one since its final sound is another full vowel. Another problem has to do with the claim that full vowels in Berber are long, but I will leave this after reviewing the next set of literature.

Bendjaballah and Haiden (2008 2013) adopt a similar templatic approach to the morphosyntactic structure of the DP and its alternation with the two States. On the assumption that the NP projects a DP and a KP (Guerssel 1992), they argue that each head in that structure has a CV template in phonology. This is schematised in the structures below in (55):

(55)

FREE STATE		CONSTRUCT STATE	
MASC.	FEM.	MASC.	FEM.
KP	KP	KP	KP
K DP	K DP	K DP	K DP
CV D	CV D	P D	P D
a	ð-	w ə	ð ə
CV CV	CV CV	CV CV	CV CV

Because masculine nouns have a full vowel-initial in the FS, the first part of this vowel occupies the V slot of the CV template under D and the second

part spreads onto the V slot of the CV template under K, since the latter is phonetically empty. When this noun is in the CS, which is marked by *w*- according to them, this morpheme occupies the consonant slot of the CV template under D. Conversely, feminine nouns in the FS have their feminine marker *ð*- in the consonant slot of the CV template under K and the number marker being a full vowel occupies the V slots of both CVs. When these nouns are in the CS, and because the latter projection is a DP, the feminine marker occupies the consonant slot of the CV under D and the schwa/ø occupies the vowel slot of the template while the CV under K remains empty. Crucial to their analysis is the fact that, what they refer to as, 'light prepositions' are prosodically deficient vocabulary items and therefore do not have their own CV template in the phonological component. As a last resort for them to be spelt out, they are hosted by the consonant slot of the CV template under K. Under this analysis, Bendjaballah & Haiden demonstrate that 'light prepositions' are part of the phonological domain of the DP, in that they share a template with that DP in the phonological component. This indeed lends support to the proposed analysis whereby P as a CS head is realised as one PhW with the DP it selects, as I will be arguing later. The proposed study, however, takes this issue a step further and argues that this process applies to all the CS cases including the VS sequence.

There is one problem with Bendjaballah & Haiden's analysis, if applied to Tarifit. However, this problem is not theoretical since the templatic approach is perfectly compatible with DM if these templates are taken to be part of vocabulary insertion⁵⁵. The problem has to do with the claim that full vowels are long in Berber and should therefore have two vowel slots in the skeleton. Aside from the schwa and the three full vowels (/a/, /i/ and /u/), Tarifit has an additional set of vowels which are diphthongs (Dell and Tangi 1992). Instances, of words which make use of diphthongs can be seen from the following: [buaxs] 'grasshopper', [ɪarɜ] 'charcoal', [ðasɪaθ] 'mill', [ðuasra] 'hyena' etc. These are produced as clear diphthongs, as in English, and are twice longer than the three basic vowels. If these diphthongs are longer than the full vowels, the latter set may not be analysed as long. So, it is not clear how would cases of diphthongs be dealt with if this analysis is to be extended to Tarifit. Another problem has to do with the CS form of the inflectional class in plural. I showed earlier that the CS marker with this set of nouns is homophonous with the FS. Because the CS is a DP, according

⁵⁵ Among the authors who worked within the theory of DM using a templatic approach, see Arad (2005) on Hebrew, and Lowenstamm (2008) on the morphology of nouns in French and Hebrew among many others.

to Bendjaballah and Haiden, and given that their analysis always predicts that any CS form should involve not more than one consonant and a short vowel/schwa, which would be hosted by the CV under D, a CS morpheme like *i-* is problematic because this is a full vowel which requires two vowel slots but the CV template under D provides only one. The analysis could work if full vowels in Tarifit are treated as short on the assumption that long vowels are diphthongs. This would possibly explain why Tarifit allows a vowel like /i/ in the CS but Taqbaylit does not.

As an alternative to the templatic approach, I adopt a standard linear approach following Tangi (1991) and Dell & Tangi (1992) and show how this approach can accommodate either form (*i-* or *jə-*) in that it does not impose any restrictions on the number of syllabic templates. I also follow the authors mentioned who argued that Tarifit has a CV(C) syllabic structure.

The first piece of evidence in support of the claim that the CS DP is part of the phonological domain of its c-commanding head comes from the phonological interaction displayed by the two heads. This can be seen from (56):

- (56) *i-ðu-a* /iðwa/ *u-ʒðið* **PHONOLOGY:** → [ið.wa.wəʒ.ðið]_{Phw}
 3M.SG-fly-PERF CS-bird
 ‘The bird flew.’

The verb, in (56), ends in a vowel and the subject also starts with a vowel. Due to the adjacency of the two vowels [au], the second vowel (i.e. CS-marker) then becomes a glide, as can be seen from the phonological derivation of that sentence. The same change can also be noticed inside the verb with the sequence [ua] becoming [wa]⁵⁶. Conversely, the same process does not apply to the verb and the object, as can be seen from (57):

⁵⁶ Evidence that the underlying representation of the final sequence for the root in (56) is /ua/, and not /wa/, comes from the fact that the lexical root is $\sqrt{\text{ðu}}$ ‘fly’. Other primitive roots that have a vowel final are: $\sqrt{\text{su}}$ ‘drink’, $\sqrt{\text{ni}}$ ‘ride’, $\sqrt{\text{nu}}$ ‘contemplate’ etc. Note that these forms are also maintained when used as verbs in the imperative form. These roots, like many other roots, take the regular perfective suffix *-a*: *su-a* ‘drink-PERF = [swa], *ni-a* ‘ride-PERF = [nja], *nu-a* ‘contemplate-PERF = [nwa]. Once the vowel-final of the lexical root combines with the regular perfective suffix, that vowel becomes a glide. This is evidence that the glide arises from two adjacent vowels.

- (57) i-ssu a-zaθir **PHONOLOGY:** → [is.su]_{PhW} [a. ʒa.θir]_{PhW}
 3M.SG-lay.PERF SG-bucket *[is.su.wə.ʒa. θir]
 ‘He laid the carpet.’

Although the verb and the object in the sentence above involve two adjacent vowels ([u] and [a]). The process of inserting a glide does not apply. This is indeed an indication that there is a phonological interaction between the final vowel of the verb and the initial vowel of the subject, which suggests that the two syntactic words are part of the same prosodic domain but this process cannot be extended to the verb and its object. In other words, the interaction is syntactically driven and is not due to purely phonological processes.

The phonological constraint that bans vowel hiatus in Berber and other related issues relevant to the syllabic structure of the language were discussed at length by Dell and Elmedlaoui (1987) and by Dell and Tangi (1992), including cases of CS⁵⁷. The authors argue that Berber does not allow adjacent syllable nuclei in view of the requirement that the syllable must have an onset. The only exception where an onset may not be required is at the beginning of a new syllabification domain⁵⁸. Dell and Tangi also note that the structure of the syllable in Tarifit is CV(C). If onsetless

⁵⁷ It is important to note that Dell and Tangi (1992) worked on Ayt-Sidar Tarifit, which is a similar dialect to the one investigated in the book. These belong to the same Berber language (i.e. Tarifit Berber), in that they are mutually intelligible.

⁵⁸ In their seminal work on syllabic consonants and syllabification in Imdlawn Tashlhit, Dell and Elmedlaoui (1985) demonstrate that the onset requirement is so strong that it over-rides concerns about sonority. So, in a sequence like [wl], the [l] is the nucleus of the syllable, according to them. Although consonants are not generally syllabic in Tarifit, and that function is realised by the insertion of a schwa (Dell and Tangi 1992), the authors show that the onset requirement found with Imdlawn Tashlhit also applies to Tarifit. This requirement is formally captured by the following generalisation: “NONHIATUS: Only at the beginning of a syllabification domain can there exist onsetless syllables” (Dell & Tangi 1992: 132). The requirement that the onset must be filled can be seen from cases other than CS: *afrux-a* ‘boy-this’ (this boy) = [af]_σ [ru]_σ [xa]_σ versus *ðara-a* ‘spring-this’ (this spring) = [ða]_σ [ra]_σ [ja]_σ. In the latter sequence (noun + demonstrative) with two adjacent vowels at the end [aa], it is not the second vowel that changes to a glide but a new glide is inserted as a requirement for the last syllable to have an onset within the same PhW. The newly inserted glide is motivated by the fact that the previous vowel syllabifies with, and then becomes the nucleus of, the previous syllable: [ra]_σ. In this case, the rule that changes a vowel into a consonant stated earlier in (52) can be improved by making reference to the onset as in (i):

(i) [+SYLLABIC] → [-SYLLABIC]/ __σ[

(58) δ -uyu a- u-kza.
 3F.SG-go.PERF to CS-river
 ‘She left to the river.’ **PHONOLOGY:** $\rightarrow$ [ɖu.yu]_{phW} [a.wək.za]_{phW}

(59) $\delta\text{-k}^w\text{θi-θ}$ s- u-qabu.
 3F.SG-hit.PERF-3M.SG.OBJ with CS-stick
 ‘She hit him with a stick.’ **PHONOLOGY:** $\rightarrow [\delta\text{ək}^w.\text{θiθ}]_{\text{PhW}}$
 $[\text{su.qa.bu}]_{\text{PhW}}$

(60) a-mʃɪʃ n- ʒuarn.
SG-cat of neighbour.PL
'The neighbour's cat.' **PHONOLOGY**: → [am.ʃɪʃ]_{PhW}
[nɔʒ.wa.rən]_{PhW}

When the preposition, which is a vowel, combines with the CS-marker *u-* below, in (58), the latter becomes the glide *w-* and therefore the onset of the following syllable. There are two pieces of evidence in support of the claim: (1) the first syllable represented by the preposition *a-* ‘to’ is onsetless and this syllabic property is only allowed at the beginning of a new syllabification domain, (2) if the preposition was part of the syllabic domain of the preceding verb, the following sequence would be expected: *[δuɣ.wa] but this is obviously ruled out. In (59), the CS morpheme *u-* does not change into a glide simply because the onset of the first syllable is filled with the preposition *s-* ‘with’. Similarly, the preposition *n-* ‘of’, in (60), syllabifies with the following DP. Due to the fact that this DP is not overtly marked for the CS, since it has a consonant-initial with no prefix number, a schwa is inserted between the preposition and the following consonant to break the consonant cluster [nɣ], in addition to the vowel hiatus [ua] becoming [wa]⁵⁹.

⁵⁹ The vowel /u/ is a plural marker (together with -n), since the singular of *juarn* 'neighbours' in (60) is: *a-ʒʒar* 'SG-neighbour'.

(61) zar-n ð-a-mka-θ.
see.IMPERF-3M.PL 3F.SG-woman-F
'They are seeing the woman.' **PHONOLOGY:** → [za.rən]_{PhW}
[ðam.kəθ]_{PhW}

(63) i-s-ka ð-i-sira.
 3M.SG.buy.PERF F-PL-shoe
 'He bought shoes.' **PHONOLOGY:** → [is.ka]_{phw} [ði.si.ra]_{phw}

[illegible]

⁶⁰ This observation was also made by Ouhalla (1996).

- (65) ʃʃi-n i-nβziw-n.
eat.PERF-3M.PL PL-guest-PL
'The guests have eaten.'
- VS: **PHONOLOGY:** [ʃʃi.ni.nəβ.zi.wən]_{PhW}
V_{pro}O: **PHONOLOGY:** [ʃʃin]_{PhW} [i.nəβ.zi.wən]_{PhW}
- (66) δ-xwa δ-ara.
3F.SG-empty.PERF F-spring
'The spring is empty.'
- VS: **PHONOLOGY:** [ðəx.wa.ða.ra]_{PhW}
V_{pro}O: **PHONOLOGY:** [ðəx.wa]_{PhW} [ða.ra]_{PhW}

The surface representation of the two pairs of sentences can either be interpreted as intransitive (VS) or transitive ($V_{[pro]}$ O) since the arguments do not display overt CS-marking. The distinction in form between the two States is important in that it allows for a proper interpretation of the argument at LF. So, the argument that is marked for CS is always interpreted as the subject and the one that is in FS is interpreted as the object. Although the arguments below display no morphological information on the CS, a distinction is still made at the production level (phonology). If the DP that is marked for the CS forms a PhW with its c-commanding head as shown earlier, whereas the FS NP does not, this should apply to all cases including DPs that do not necessarily display overt marking. That is, VO as in (66) should be produced as two separate phonological sequences whereas VS as in (65) should be produced as one single sequence. Although these distinctions may often be partially obscured by surface phonological processes which generally occur in casual speech, the distinction however can clearly be noticed in careful speech. The VS sequence is produced as a single phonological utterance while the VO sequence is produced as two separate utterances. This would also be expected under the proposed theory, in that only DPs whose prefix is specified for [+CS] are expected to be part of the syllabic domain of the verb or preposition, but the ones that are specified for [-CS] should be part of a new phonological domain. It is important to note that there are other phonological processes that do not necessarily follow from syntax. Consider the data below, in (67)-(69):

- (67) Tama ɲ içfa . **PHONOLOGY:** [ta.ma]_{PhW} [niç.fa]_{PhW}
Tama øf turtle.CS
'A woman's nickname/surname.' **READJUSTMENT RULES:**
[ta.ma.iəç.fa]

- (68) radʒa ɲ u-xam. **PHONOLOGY:** [ra.dʒa]_{PhW} [nu.xam]_{PhW}
 aunt ɸ CS-room
 ‘Woman-ghost.’ **READJUSTMENT RULES:** [ra.dʒa.wə.xam]_{PhW}

- (69) ð-aðuf-θ ɲ i-ʒra. **PHONOLOGY:** [ða.ðu.fəθ]_{PhW} [niʒ.ra]_{PhW}
 F-wool-F ɸ pl-frog._{CS}
 ‘Water-weed.’ **READJUSTMENT RULES:** [ða.ðuf.θi.jəʒ.ra]

The sentences above are all idiomatic and have the complement of the preposition phonologically merging with the higher DP, not with the preposition. Cases like these, within the proposed theory, are part of the phonological readjustment rules that occur following Vocabulary Insertion. When the DP is marked for the CS by the preposition in the syntax, the derivation is then sent for interpretation by the PF interface where syntactic nodes are supplied with their phonological content. After insertion, the preposition *n-* ‘of’ then gets vocalised next to a vowel and deleted. It is this process that allows the lower DP to then merge with the higher DP. So, cases like these should be kept separate from true CS configurations where syntax and phonology match each other.

In his discussion of some aspects of Tamazight phonology, Idrissi (2001) demonstrates that the /j/ may be inserted between the verb and the object in some VO sequences, but the same process cannot apply to some other VO sequences. He argues that the form on the left-hand side in the data below in (70-71) is the underlying representation whereas the form on the right-hand side is the phonetic representation.

- (70) /ʒr azyaw/ [ʒr azyaw] ‘throw the basket’

- (71) /ʒr azyaw/ [ʒr y azyaw] ‘throw the basket’

(Idrissi 2001: 62)

In (70), the two representations match each other. In (71), the glide /j/ (i.e. ‘y’) is inserted between the verb and the object for phonological reasons he provides, the details of which are not discussed here for lack of space. So, cases like these clearly show that this process is not syntactically motivated since the two configurations are identical (both are VO clauses). It can then be argued that instances like these are like their Tarifit counterparts, in (67-69), and should therefore not be treated the same as the CS configurations where phonology is sensitive to the syntactic output.

5.7 Concluding Remarks

This chapter investigated the CS in Tarifit. While the analysis shares the consensual view that this phenomenon is essentially syntactic, several pieces of evidence were provided which do not support the camps that associate it with a D-head or case morphology. Alternatively, it is argued that the CS is a language-specific property having to do with syntactic constituency. This specific configuration involves a functional head that can only be T or P, and these enter in a syntactic relation with a DP under ‘closest c-command’.

Under a syntactic analysis of the noun, which is argued to consist of a category-less lexical root and a category-defining functional head, this typology is then formalised within the DM theory by providing evidence that the CS is marked on the functional head of the noun at the exclusion of the lexical root. The theoretical predictions of the facts surrounding the CS phenomenon then turn out to be a relation between two functional heads which encode grammatical information. These predictions provided a theoretical basis for some CS marking alternations.

The paper also discussed some phonological ramifications of this syntactic phenomenon. Following the interpretation of the CS configuration by the phonological component, the CS DP and its higher c-commanding head were argued to be spelt out at PF as one PhW. This typology, I believe, was well-articulated in a framework where phonology has an interpretive role of the syntactic output.

WORD ORDER

6.1 Introduction

There appears to be a unanimous view in the literature that Berber has an unquestionable basic VSO order. Other possible orders are argued to be derived and therefore marked in one way or another. To the extent that this claim has become the norm in the Berber linguistic literature, it is often taken as a given when any aspect of the syntax of the language is investigated. Also important is the fact that SVO is often claimed to be the most common order after VSO. This statement sums up the literature on the word order of Berber in the broad sense. From this discussion, one can induce that the position of the object in OVS is different from the position of the subject in SVO especially, that Sadiqi explicitly claims that the object in clause-initial is focused. As for the claim that SVO is the next most common order, this typology is not exclusive to Berber but appears to be the general tendency in the VSO system according to Greenberg's Universal six⁶¹.

Similarly, and based on a statistical corpus conducted on Ayt-Sidar Tarifit spoken in the eastern part of the Rif area, Cadi (1987) reports that most of his subjects chose VSO as the preferred order. His statistics showed that 75% favoured VSO while 25% of his informants preferred SVO. It is important to note though a ¼ of Cadi's informants chose SVO. His corpus is not without motivation; it appears to be a response to some claims regarding the grammatical shift of some other Berber languages. According to Cadi (1997), Galland (1979) argued that Tuareg has adopted SVO as the basic order. So, his field work is more like a confirmation that VSO is still maintained in Tarifit of Ayt-Sidar.

From this brief typological survey regarding the word order of Berber, it could be noticed that SVO to some degree is competing with VSO in many Berber languages. However, these works still argue that VSO remains the

⁶¹ Greenberg's universal six states that "all languages with dominant VSO order have SVO as an alternative or as the only alternative basic order." (Greenberg 1966).

dominant order. It is this specific issue which I wish to explore relative to Tarifit. Based on empirical evidence, I show that Tarifit favours SVO over VSO. Crucial to this grammatical shift is the fact that the subject in SVO is the topic and not the grammatical subject. An examination of the relevant facts suggests that topicalization is realised in two ways. In a basic transitive clause where all arguments are lexical, it is the subject which is topicalized yielding SVO. When the object is a clitic, it is this pronoun which fills the topic position leading to a complementarity distribution between the subject and the clitic pronoun.

The chapter explores an additional phenomenon whereby some embedded and *wh*- clauses require verb-first, unlike root clauses. A close examination of the structure of these clauses reveals that the verb in these configurations undergoes movement to C movement and therefore different from the configuration generating VSO in root clauses where the verb moves to T. The last part of the chapter looks at the behaviour of topic and focus at the interface.

This chapter is organised as follows. Section 7.2 provides an overview of the word order of Tarifit. Section 7.3 addresses the ordering of elements in the root clause. Section 7.4 deals with embedded and *wh*- clauses particularly, the issue of verb-first and its motivation. Section 7.5 looks at the discourse features (topic and focus) and makes the claim that these are likely to be phonologically motivated in Tarifit. Section 7.6 concludes.

6.2 Overview

When native speakers of Tarifit are presented with a choice with gradable acceptability between VSO and SVO, SVO is chosen as the preferred order. The data below, in (1), show the possible alternations that are found with the basic declarative clause in Tarifit:

- | | | | |
|--------|----------------------|----------------|----------------------|
| (1) a. | ǝ-zra | a-qzin. | V _[pro] O |
| | 3F.SG-see.PERF | SG-dog | |
| | 'She saw the dog.' | | |
| b. | Nunja | ǝ-zra | a-qzin. |
| | Nunja | 3F.SG-see.PERF | SG-dog |
| | 'Nunja saw the dog.' | | |
| c. | ?ǝ-zra | Nunja | a-qzin. |
| | 3F.SG-see.PERF | Nunja | SG-dog |
| | 'Nunja saw the dog.' | | |

The fact that Berber is a pro-drop language makes the VO order possible without the lexical subject, as in (1a). It must be noted that Tarifit is such a robust pro drop language that a sentence like (1a) is preferred when the subject is not known. This is due to the obligatory presence of subject agreement on the verb, which allows the subject to be dropped freely. Other possible combinations are SVO, as in (1b), which is the preferred order when the two arguments are lexical and VSO, as in (1c), which is less frequent. The latter order however is not completely ruled out but is perceived as somewhat odd by Tarifit speakers⁶².

In addition to lexical arguments, Tarifit like other Berber languages has the option of using clitic pronouns as substitutes for lexical DPs. In a basic transitive sentence, the internal argument as a clitic is important to the current discussion in that it affects the word order. Consider the data below, in (2), which all make use of the object pronoun as an alternative to the lexical DP:

- | | | |
|--------|--|-------------------------------------|
| (2) a. | ḍ-zri-θ
3F.SG-see.PERF-3M.SG.OBJ
‘Nunja saw him.’ | Nunza.
Nunza
$V_{[+OBJ-CL]}S$ |
| b. | Nunza, ḍ-zri-θ.
Nunza 3F.SG-see.PERF-3M.SG.OBJ
‘Nunja, she saw him.’ | $S, V_{[+OBJ-CL]}$ |
| c. | *Nunza ḍ-zri-θ.
Nunza 3F.SG-see.PERF-3M.SG.OBJ | $*SV_{[+OBJ-CL]}$ |

⁶² Interestingly, VSO is still acceptable in verbal constructions with idiomatic meaning in (i):

- (i) i-ʃʃaθ u-nza.
 3.M.SG-hit.IMPERF CS-rain
 ‘It is raining’ (lit. ‘the rain is hitting’).

Tarifit does not have a verbal root equivalent to the English ‘to rain’. This concept is expressed using the verb *ʃʃaθ* ‘hit’. So, the verb in this context does not have a literal meaning but refers to ‘the falling of the rain’ (i.e. ‘it is wet’). Constructions like these favour VSO over SVO, due to the idiomatic interpretation of the verb. So, it appears that the VSO order displayed by (i) is arguably a remnant of an older system, which shows that Tarifit was indeed a VSO language.

- d. a-qzin, ð-zri-θ Nunza. O, V_[+OBJ-CL]S
 SG-dog 3F.SG-see.PERF-3M.SG.ACC Nunza
 'The dog, Nunja saw him.'
- e. a-qzin, ð-zri-θ. O, V_{pro} [+OBJ-CL]
 SG-dog 3F.SG-see.PERF-3.M.SG.OBJ
 'The dog, she saw him.'

In (2a), both the verb and the object clitic are required to be in the initial position of the clause when the internal argument is a clitic. In this case, the SVO option seen in (1b) is not available anymore. The subject is still allowed in the initial position, but this possibility is a clear case of left-dislocation, which I represent here using a comma, as in (2b). The same alternation is ruled out when no intonation break (without a comma) is used, as in (2c)⁶³. This suggests that the position of the subject, in (2b), is different from the position of the subject in SVO, seen in (1b). Similarly, the object in the initial position of the clause is left-dislocated, as in (2d). The same alternation is also possible when the subject is *pro*, as in (2e).

An additional case in which the order is not consistent with the order found in root clauses has to do with *wh*- and embedded clauses. This issue can be seen from the data below, in (3)-(6):

- (3) a. mərmi [ɤa i-uɣu u-nβzi?] VS
 when FUT 3M.sg-go.PERF-.PL CS-guest
 'When will the guests leave?'
- b. mərmi *[anβzi ɤa uɣur-n?] *SV
 'When guest FUT go.PERF-3M.PL

⁶³ A possible reason could be due to the size of the predicate involving the verb and the object clitic, which would suggest that the subject may not be left-dislocated. However, making the predicate larger does not improve the awkward nature of this sentence, as can be seen from (i):

- (i) *Nunza ð-zri-θ g- iyar.
 Nunja 3F.SG-see.PERF-3M.SG.OBJ in field
 'Nunja she saw him in the field.'

- (4) a. min [ð-ʃfa Nunʒa?] VS
 what 3F.SG-eat.PERF Nunʒa_{CS}
 ‘What did Nunja eat?’
- b. min *[Nunʒa ð-ʃfa?] *SV
 what Nunʒa 3F.SG-ate.PERF
- (5) a. mimi [i-awɾ u-frux -nni?] VS
 why 3M.SG-escape.PERF CS-boy DEM
 ‘Why did that boy run away?’
- b. mimi *[a-frux -nni i-awɾ?] *SV
 when SG-boy DEM 3M.SG-ran away
- (6) a. uɖʒi n- i-zra u-mɕsa. VS
 sheep COMP 3M.SG-see.PERF CS-shepherd
 ‘The sheep that the shepherd saw.’
- b. *uɖʒi n- a-mɕsa i-zra. *SV
 sheep COMP SG-shepherd 3M.SG-saw.PERF

Unlike root clauses, seen in (1), *wh*- and embedded clauses display a rigid order consisting of a very constrained *V*-first as can be seen from all the sentences above. The *SV* sequence is ruled out, as can be seen from the (b) sentences. It is worth noting that the *SV* order with a language like English – an *SVO* language – is required as can be observed from the corresponding English sentences in the data.

In view of this survey, a few points can be drawn. With respect to root clauses seen in (1), *SVO* is the preferred order when the arguments are lexical. When the object is a clitic, as seen in (2), the pronoun and the verb are required to be in the initial position of the clause. As for the embedded and *wh*- clauses, discussed in (3)–(6), these configurations raise two possible questions. First, could the *V*-first phenomenon be evidence that Tarifit is still a verb-initial language? Secondly, why is it that subject-initial is allowed with declarative root clauses but this option is not available to the embedded and *wh*- clauses? The syntactic implications of root clauses and *wh*- clauses are examined in section 7.3 and 7.4, respectively.

6.3 Root Clauses

Similar data discussed earlier regarding root clauses are provided, as in (7)–(12):

- (7) Nunza ḏ-arza a-qnuʃ.
 Nunza 3F.SG-break.PERF SG-pot
 ‘Nunja broke the pot.’
- (8) ?ḏ-arza Nunza a-qnuʃ.
 3F.SG-break.PERF Nunza SG-pot
 ‘Nunja broke the pot.’
- (9) ḏ-arzi-θ Nunza.
 3F.SG-break.PERF-3M.SG.OBJ Nunza
 ‘Nunja broke it.’
- (10)* Nunza ḏ-arzi-θ.
 Nunja 3F.SG-see.PERF-3M.SG.OBJ
- (11) Nunza, ḏ-arzi-θ.
 Nunza 3F.SG-broke.PERF-3M.SG.OBJ
 ‘Nunja, she broke it.’

To recap, it was established that SVO is the dominant and widely preferred order, as in (7), while VSO is avoided but possible, as in (8). The picture is further complicated by constructions that make use of the object as a clitic. Cases like these require the verb and the clitic to be in the initial position of the clause, as in (9), and therefore counter-intuitive to the alternation that places the subject ‘first’ in the clause. The subject is not permitted in clause-initial when the object is a clitic, as in (10). This alternation is possible only when the subject is interpreted as a left-dislocated DP expressed here by a comma as in (11). In view of these facts, this typology calls for a fundamental reconsideration of the usual claim which takes Tarifit to be a strictly VSO language.

6.3.1 Tarifit: a topic-prominent language

A firsthand examination of the data in (7)-(11) suggests that there are two elements, which alternate on the initial position of the clause. There is the subject, on the one hand, and the verb and the object clitic, on the other. When all arguments are lexical, the subject occupies the initial position of the clause whereas the verb and its object remain in situ, as in (7). When the object is a clitic, the verb and the clitic take over this position while the subject remains lower in the clause, as in (8). This typology points to a possible complementary distribution between the subject and the VP. If this is true, the assumption will amount to the claim that the subject and the VP

[V.OBJ-CL] share the same position in the syntax, which may explain this complementarity. This argument indeed lies at the heart of my analysis and is defended in the remainder of this section.

To put this into a much clearer perspective, I argue that the position to which the subject or the VP moves is where the topic feature is valued. This leads me to argue that Tarifit has developed a discourse configurational system, which requires the initial position of the clause to be filled with topic and that this feature can be borne either by the subject or by the VP. When all arguments are lexical, it is the subject which is the topic and therefore moves to the initial position of the clause. When the object is a clitic, the topic property is assigned to that clitic. Due to its prosodic deficiency, the pronoun cannot move alone to the initial position of the clause and pied-pipes the verb with it yielding VP-topicalization while the subject remains in situ. Note that the association of the object clitic with topic is not a peculiarity of Berber but these pronouns are cross-linguistically known to be associated with this feature (Kiss 1995).

Our major claim that subjects and clitic pronouns are topics can be tested easily using specific discourse contexts. If we consider the interrogative sentence in (12a), the question cannot be answered with an SVO order, as in (12b). Given the context here, the ungrammaticality of (12b) is expected in that the subject represents new information, not old information.

- (12)a. u- ig- i-zri-n Nunza?
 WH- COMP 3.M.SG-see-PRT Nunza
 'Who saw Nunza?'
- b. *a-θaras i-zra Nunja.
 SG-gentleman 3.M.SG-see.PERF Nunja
 'The gentleman saw Nunja.'

A similar test can be applied to the clitic pronoun, as in (13). The sentence in (13b) cannot be the answer to the question in (13a) in that the pronoun would be new information. Both (12b) and (13b) are completely ruled out under the contexts mentioned.

- (13)a. u- ig- i-zra u-θaras?
 WH- COMP 3.M.SG-see. PERF CS-gentleman
 'Who did the gentleman see?'

- For the subject in (12b) and object pronoun in (13b) to be interpreted as new information to the relevant questions in (12a) and (13a), the DPs need to be selected by the nominal copula which marks focus in these specific contexts. This can be seen from (14) and (15), respectively, which is clear evidence that subjects in SVO and clitic pronouns alternating on the initial position of the clause are indeed topics.

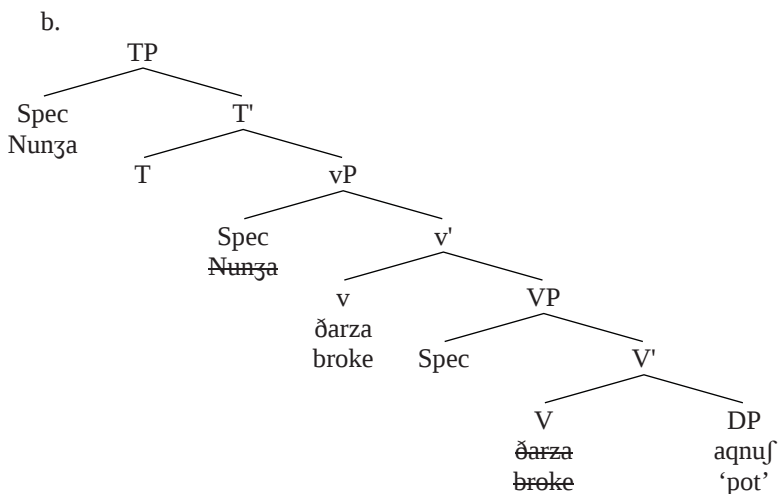
- The proposed claim also makes the prediction that topic can be expressed only once. So, syntax provides only one position for the topic feature which can either be filled with the subject or by the object clitic and the verb which accounts for the alternation between SVO and VP-topicalization. However the proposal appears to be inconsistent with the broad view whereby topic (old information) may be expressed more than once in the same clause unlike focus (new information) which may be expressed only once. It must be noted though that this view appears to be more like a general tendency than an absolute universal property of language. There are works in the literature which argue that this is subject to parametric variation. According to this hypothesis, some languages may allow only one topic while others may allow more (Kiss 1995). Gill and Tsoulas (2004) provide empirical evidence that Korean may only have one topic per sentence. If the claim that the number of topics allowed per a clause is subject to parametric variation is right, one could then argue that Tarifit falls within the category of languages that allow only one topic like Korean. In view of this fact, the alternation between the subject and the object clitic is then predicted. The subject is associated with topic in SVO when the arguments are lexical. By contrast, the topic position is filled with the object pronoun when the internal argument is a pronoun. This operation is accomplished by the pronoun pied-piping the verb with it yielding VP_[V-Obj,Cl] S.

Before examining the derivation of the two alternations, a note regarding the exact position of the topic is in order. Discourse driven information, including topic-fronting, is generally captured under some discourse functional projections above TP following Rizzi's (1997) left periphery. Rizzi proposes a split CP domain which contains Topic Phrase, Focal Phrase, and other additional functional projections, referring to very specific discourse information. While the view that discourse information takes place in the CP domain is probably the most common, there is also an alternative view in the Germanic tradition which argues that topicalization is positioned in Spec,TP (Den Besten & Webelhuth 1987, Den Besten 1990, Zwart 2006 among others). Topicalization in Arabic – another Afroasiatic language – is also argued by Fassi Fehri (1993) to occur in Spec, TP. It is this hypothesis that I wish to adapt for Tarifit. This ultimately leads me to argue that the subject and the VP compete for the topic position in Spec, TP, which justifies their complementarity. There is evidence in support of the view that topic in Tarifit is in Spec, TP. Consider the embedded clause below in (16):

- (16) δ -nna-(a)y qa a-mfif
 3F.SG-tell.PERF-1SG.DAT COMP SG-cat
 i-ffa a-çsum.
 3M.SG-eat.PERF SG-meat
 'She told me that the cat ate meat.'

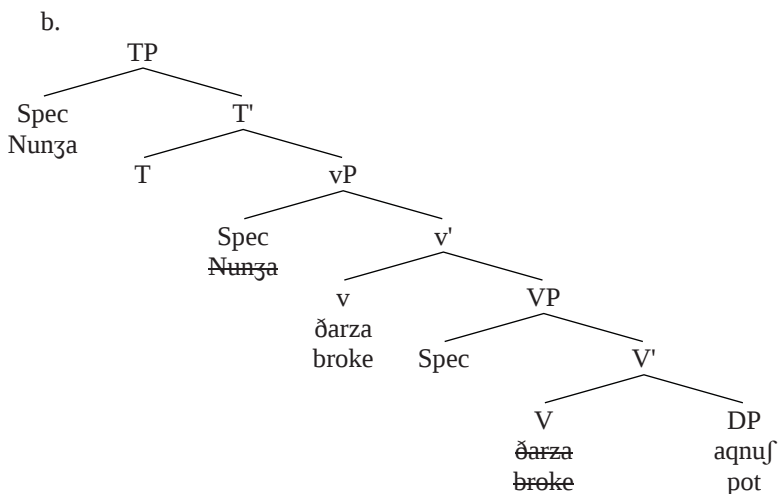
This clause, which is selected by the complementiser *qa*, displays an SVO order. If *qa* occupies the C position, as I demonstrate later in the chapter, the subject can then be argued to be in Spec, TP and therefore identical to the SVO found with root clauses. So, allowing SVO to occur in these kinds of clauses suggests that the subject does not move to Spec, CP presumably because it does not precede the complementiser. Fassi Fehri (1993) uses the same evidence to argue that the topicalized subject (SVO) in Standard Arabic is in Spec, TP. Following this line of reasoning, the derivation of a basic transitive clause in SVO like (17a) is schematised, as in (17b):

- (17) a. Nunza δ -arza a-qnuḥ.
 Nunza 3F.SG-break.PERF SG-pot
 'Nunza broke the pot.'



The subject is base generated in Spec, vP, the verb in V and the lexical object as the complement of V. Since all arguments are lexical, together with the fact that only one topic per a clause is allowed in Tarifit, the subject undergoes topicalization to Spec, TP yielding an SVO order. As for the alternation, which makes use of VP-topicalization, this is represented as (18a) with the derivation, as in (18b):

- (18)a. δ -zri- θ Nunza.
3F.SG-see.PERF-3M.SG.OBJ Nunza
'Nunza saw him.'



The underlying representation of this configuration is identical to (17); the subject is in Spec, vP, the verb in V and the object in DP. Since the internal argument in (18) is now a pronoun, and since clitic pronouns are topics, it is the pronoun which undergoes topicalization to Spec,TP. Due to its prosodic deficiency, the clitic cannot move alone to the initial position of the clause so it pied-pipes the verb with it, yielding VP-topicalization (18b). Within the proposed analysis, T can still probe the Goal V without the need for the verb to move there (i.e. T) (Chomsky 2001; 2004). Note that this kind of VP-fronting is not exclusive to Berber but is cross-linguistically common. The derivation of the English sentence, in (19), is widely known to be the result of VP-Topicalization. Like Tarifit, the tropicalized VP in (19) includes the main verb and the object but excludes the subject, which is arguably in Spec, vP.

(19) They said they would win the competition, and [_{VP} *win the competition*]_{*t_i*} [_{VP} they did ~~win the competition~~]_{*t_i*}].

Aside from the topicalization of the subject and the VP, it was shown that an additional combination which makes use of SV + object clitic is also possible. Given that the presence of the object as a clitic always implies VP-topicalization, the subject in such a case should not be expected to occupy the Spec, TP. A similar sentence is repeated as (20a), with the derivation as in (20b):

- (20)a. Nunʒa, ǝ-zri-θ.
 Nunʒa 3F.SG-see.PERF-3M.SG.OBJ
 ‘Nunʒa, she saw him.’

- b. [_{XP} Nunʒa_i X] [_{TP} VP_i ǝzri-θ T] [_{VP} ~~Nunʒa_j v~~] [_{VP#} ~~V ǝzri~~] [_{DP#} ~~θ~~]]].

The position of the subject in cases like (20) has no effect on VP-fronting in that it is simply an instance of left-dislocation, as discussed earlier. This is reflected in phonology by a clear intonation break, which separates the subject from the rest of the VP. This derivation involves the topicalization of the VP and the left-dislocated subject above TP which I label as XP, in (20b). The latter projection may be interpreted as broadly corresponding to Rizzi’s (1997) left periphery. I am not necessarily committing to a specific position for the left-dislocated DP in that this has no implication on the VP-topicalization proposed, which is the main concern of this chapter. So, whether the object is lexical, or a clitic is extremely important. When all arguments are lexical, SVO is the result of the topicalization of the subject in Spec, TP while the verb and its lexical object are in their base-generated position in V and DP, respectively. When the object is a clitic, the order is the result of a left-dislocated subject while the verb and the object clitic are topicalized in Spec, TP.

As for the OVS order, which is also possible though marginal, as in (21), the object in this case is left-dislocated like the subject in (20). Note that the left-dislocated DP in (21) may be argued to be merged there if the object position is assumed to be occupied by the clitic.

- (21)a. uʃʃn, ǝ-zri-θ Nunʒa.
 jackel 3F.SG-see.PERF-3M.SG.OBJ Nunʒa
 ‘The jackel, Nunja saw him.’

- b. [_{XP} uʃʃn X] [_{TP} VP_i ǝzri-θ T] [_{VP} Nunʒa v] [_{VP#} ~~V ǝzri~~] [_{DP#} ~~θ~~]]].

In view of all the possible configurations examined, cases of VP-topicalization are found in the following: V_[OBJ,CL] S, SV_[OBJ-CL] and O, SV_[+OBJ-CL]. The only case where VP-topicalization does not apply is when all arguments are lexical since the topic position is occupied by the subject.

Note that the literature in the Berber linguistic tradition, which argues for a basic VSO order, generally assumes the V-raising approach in its various forms (Guerssel 1995, Sadiqi 1986, Ouhalla 1988, Ouali 2011 among others). The proposed analysis departs radically from these works, in that it argues that Tarifit has now shifted to a topic-prominent language. In view

of this, I argued for a VP-topicalization to Spec, TP as an alternative to V-to-T movement. However, and because this order is still possible, I maintain the V-to-T approach as the operation generating the less frequent VSO sentences. These systems do not coexist but rather compete with one another, with the topic-prominent system being the dominant configuration. The awkward nature of VSO is due to the discourse constraint that Tarifit has now developed, which requires the topic feature to be valued in Spec, TP.

Aside from VP-topicalization, and following the claim that the subject in SVO is the topic, one could argue that the present analysis offers nothing new in this respect since the subject with this alternation has always been argued to be the topic in the major studied Berber languages. A distinction must be made between an optional promotion of the subject to Spec, TP as the topic only when needed and an obligatory movement of this element to the same position as I argue here. This is the difference between subject-prominent and a topic-prominent languages or discourse configurational languages more broadly (Li & Thompson 1974, Li 1976, Kiss 1995). That is, the topic feature must be valued since these languages require topic-initial for their basic clause. So, it can be argued that the Spec, TP in an SVO language like English is now grammaticalized and the movement of the subject to Spec, TP is the only way for it to receive case and to also value the EPP feature. Conversely, the subject with a topic prominent language like Tarifit can be argued to receive case in situ and that object pronouns can also bear the EPP feature as well as the subject. So, the ability of the subject to receive case in situ and not in Spec, TP makes the prediction that the position of Spec, TP is reserved for topic and not for the grammatical subject.

6.4 Wh-/operator and embedded clauses

In section 7.2, it was shown that embedded and wh- clauses behave different from root clauses, in that these require ‘verb-first’. An example like the sentences discussed earlier is repeated here, as in (22):

- (22) a. min [i-zra u-qzin?]. VS
 what 3M.SG-see.PERF CS-dog
 ‘What did the dog see?’
- b. min *[aqzin i-zra?]. *SV
 what dog 3M.SG-see.PERF

Sentence (22a) represents a *wh*-/operator movement of the object which requires the verb to immediately follow the *wh*-. The possibility of the verb following the subject is not permitted, as in (22b). In view of this fact, the two questions raised earlier in overview can now be revisited. Could the verb-first phenomenon be evidence that Tarifit is still a verb-initial language? This question raises another question; if verb-first in (22a) is evidence of a V-initial configuration like the one found in the VS(O) of root clauses, why is it that subject-initial is allowed (preferred) in declarative root clauses but this option is not allowed in *wh*- and embedded clauses? In what follows, I demonstrate that the position of the verb in (22a) is different from the one occupied by the marginal VSO in basic root clauses. More specifically, V-initial in (22a) is an instance of V-to-C movement.

Evidence in support of the claim that clauses, which display verb-first is the result of V-to-C movement comes from their interaction with adverbs. While the distribution of adverbs in root clauses is flexible, as discussed in chapter four, this flexibility does not necessarily extend to the clauses which require verb-first. Consider the sentences below in (23):

- (23) a. *iwðan n- **ðɤja** ɤzi-n a-ɣndu.
 people COMP quickly dig.PERF.3M.PL SG-hole
 ‘The people who dug the hole quickly.’
- b. iwðan n-ɤzi-n **ðɤja** a-ɣndu.
 people COMP-dig.PRT.3M.PL quickly SG-hole
 ‘The people who dug the hole quickly.’

The construction in (23a) is ruled out due to the presence of the adverb, which is in a position of interference between the verb and the complementiser. For the sentence to be grammatical, the adverb must be used in a position following the verb, as in (23b). The ban of the adverb from occurring in that position in (23a) suggests the following. First, it shows that no element can intervene between the complementiser *n*- and the verb which is evidence that the verb undergoes movement to C. Secondly, the ban also suggests that the verb is not in T. If this was the case, one would expect the alternation in (23a) to be allowed and the adverb would then be somewhere in TP. Note that the alternation where the adverb precedes the verb in root clauses is allowed as in (24):

- (24) **ðɤja** ɤzi-n a-ɣndu.
 quickly dig.PERF.3M.PL SG-hole
 ‘They dug the hole quickly.’

In view of these facts, it can then be argued that the position of the verb in clauses like (23b) is an instance of V-to-C movement and its derivation is schematised, as in (25):

- (25) [_{CP} iwðan_i [_C n- i- kzi-n_j [_{TP} T [VP-~~iwðan~~_{ti} [V ~~kzi~~_{tj} [_{DP} a-yndu]]]]]].
 people COMP 3M.SG-dig.PRT ~~people~~ ~~dig~~ SG-hole
 ‘The people who dug the hole.’

In the previous section, it was argued that the initial position in the root clause is required to be filled with the topic and is therefore expected to have a discourse-configurational system of ‘topic-comment’ (i.e. old information, followed by new information). This appears to be the default system available to the root clause. However, this pattern is not maintained in clauses which display verb-first. Following the movement of an operator to Spec, CP (part of comment information), this operation forces a new discourse ordering and ultimately activates a new position for the focus feature in C. This focus checking operation can then be licensed under Spec-Head. It appears that the only candidate that can value the focus feature is the verb, which explains the verb-first sequence. In the next section, I show that there is more into V-to-C movement than what we have discussed thus far. There is at least one complementiser that can value the focus feature in C without the need for the movement of the verb. Important is that when structural focus is realised higher in CP, the subject cannot be the topic anymore and therefore remains in Spec, vP. This is because the discourse configurational system which is Comment-first in what follows requires the subject and not the topic. Evidence in support of the DP immediately following the verb to be the grammatical subject and not the topic in verb-first clauses may be noticed from the subject, which is always marked for the CS (see (22a)). This is evidence that when focus is realised higher in CP, the following DP is the grammatical subject occupying the Spec, vP and not the topic. So, it can now be granted that the language has the following alternating configurational systems: topic-comment is required by the main clause and comment-subject is required by the wh- operator or embedded clauses. It is these two discourse systems which are responsible for generating the ordering of elements in the Tarifit clause, yielding two different orders.

Before concluding this section, one last issue needs to be noted having to do with topicalization in Spec, TP versus V-to-C movement. According to the analysis, we are dealing with two different operations. Topicalization has the property of an A-movement in that it is restricted to Spec, TP. This could be because Tarifit has developed this strategy as a way of checking

the EPP feature. Conversely, V-to-C arguably involves A'-movement. Indeed, Ouhalla (1993) uses this distinction to capture the issue of Anti-agreement (Ouhalla 1993, 2005b). He argues that *wh*-clauses and the clefting of the subject trigger AAE, in that they move to the left periphery but topicalization does not in that the movement is to Spec, TP.

6.5 Discourse features and the PF interface

This section is concerned with some Tarifit facts relevant to the recent debate regarding the question as to whether discourse features are syntactic or phonological. For instance, Holmberg (1999) observes that the movement of the object higher in the clause in Swedish is dependent on the position of the verb. When the verb undergoes movement to C, the object can also move. When the verb remains *in situ*, its phonological presence blocks the object from moving higher⁶⁴. Given that the object shift involved in this movement marks focus, and given that the movement appears to be sensitive to the presence of overt elements, and not to their traces, Holmberg suggests that discourse features such as focus may be subject to cross-linguistic variation. So, a language like Swedish may have these features as phonological while others like Hungarian may have them as formal/syntactic (Kiss 1995).

Let us now see how this hypothesis fares when Tarifit facts are examined, starting with the topicalization in root clauses. In a basic transitive clause, it was shown that topicalization may be valued by the subject or by the VP. In the latter case, however, the topic feature is inherently associated with the object clitic since VP-topicalization is triggered only when the object is a clitic. This may raise the question as to why the clitic object cannot simply move alone without the verb, since it is the one that encodes the relevant feature. As far as syntax is concerned, nothing should prevent the pronominal clitic from checking the topic feature without necessarily including the main verb. The only possible reason which may prevent the clitic from moving alone to the beginning of the sentence would be phonological. The constraint which prevents enclitics from occurring in a position where they are preceded by nothing is well known fact in the Berber literature on clitics and cliticization, and this is generally argued to be

⁶⁴ The following generalisation is proposed to deal with the issue of object shift in Swedish: "Object Shift cannot apply across a phonologically visible category asymmetrically c-commanding the object position except adjuncts" Holmberg (1999:15).

phonological (Ouhalla 2005a). This would explain the ungrammaticality of (26) below whenever the clitic is tropicalized without the verb:

- (26) *- θ Nunža δ -zra.
 3M.SG.OBJ Nunža 3F.SG-see.PERF

If the object clitic which is associated with topic cannot move alone for phonological reasons as the facts appear to suggest, one way of going about this is to argue that what we referred to as VP-topicalization is in fact VP-pied-piping. The clitic must pied pipe the verb with it so that the topic and the EPP feature can be properly valued in Spec, TP. The failure of the clitic object to move alone amounts to the fact that weak/light phonological items are unable to value the topic feature. In this sense, topic can be argued to be phonologically motivated. Note that a similar phonological effect was also reported from Korean, another topic-prominent language. Gill and Tsoulas (2004) show that phonologically light adverbs cannot be tropicalized in the initial position of the clause, like Tarifit. Later in the chapter, I propose a more viable alternative based on copy theory of movement to account for this typology but let us first examine some facts about focus.

The phonological implications of discourse features appear to find further support from clauses which require verb-first discussed in the previous section. There, it was argued that this constrained order is the result of V-to-C movement motivated by structural focus. Of particular importance is the fact that V-to-C movement found in *wh*- and embedded clauses does not apply across the board. Consider the data below in (27):

- (27) a. i-nna-sn qa
 3M.SG-say.PERF-3M.PL.OBJ COMP
 [Nunža δ -arza a-qnuɟ]. SVO
 Nunža 3F.SG-break.PERF SG-pot
 ‘He told them that Nunja broke the pot.’
- b. i-nna-sn qa
 3M.SG-say.PERF-3M.PL.OBJ COMP
 [δ -arza Nunža a-qnuɟ]. VSO
 3F.SG-break.PERF Nunža SG-pot
 ‘He told them that Nunja broke the pot.’

With respect to the embedded clause in the sentences above, and unlike other embedded clauses examined earlier, this clause behaves identical to the root clause. SVO is the preferred order, as in (27a), and VSO is possible but less frequent, as in (27b). This clearly indicates that clauses, which are

selected by the subordinator *qa* ‘that’ do not involve V-to-C movement. If they did, the flexibility between the two orders (SVO versus VSO) would not be expected. Based on this fact, it can then be concluded that SVO in (27a) represents the topicalization of the subject whereas the marginal residual VSO is the result of the standard V-to-T movement. To have a better understanding of cases where the movement of V-to-C applies and where it does not, the picture is illustrated by the following data in (28)-(30):

- | | | |
|------------------------|--|----------|
| V | | S |
| (28) min ð-çsi | | Nunʒa? |
| wh- 3F.SG-take.PERF | | Nunʒa |
| ‘What did Nunja take?’ | | |
-
- | | | | |
|----------------------------------|----------|----------------|----------|
| | V | | S |
| (29) a-κjur | n- | i-ska | mohand. |
| SG-donkey | COMP | 3M.SG-buy.PERF | mohand |
| ‘The donkey that Mohand bought.’ | | | |
-
- | | | | | |
|----------------------------------|------|----------------|--------|----------|
| | | V | | S |
| (30) ð-a-mkar-θ | ig- | i-kwθi-n | a-rgaz | ins. |
| F-SG-woman-F | COMP | 3M.SG-hit-prt. | SG-man | her |
| ‘The woman who hit her husband.’ | | | | |

This movement is found in a *wh*-operator with no overt complementiser, as in (28), in a cleft sentence with the complementiser *n-*, as in (29), and in a relative clause with the complementiser *ig-*, as in (30). By contrast, V-to-C movement does not apply to clauses that are selected by the complementiser *qa*, as seen in (27). The next step is to identify the mechanism which drives this movement. That is, why is it that V-to-C movement is not required by *qa*-sentences in (27) but the same operation is required in sentences such as (28)-(30)? An examination of the relevant facts suggests that this discrepancy has to do with the complementiser in C. That is, V-to-C movement applies when this position is not filled or filled with *n-* or *ig-*. On the other hand, the same movement operation applies when C is filled with *qa*. The discrepancy in the movement of V-to-C is not exclusive to Tarifit but was previously reported from many other languages. Before pursuing the issue further, some cross-linguistic cases are discussed next.

Broadly speaking, V-to-C movement – known as ‘Verb Second’ (V2) – is often argued to be dependent on whether C is filled or not filled with an overt complementiser. Schafer (1995) shows that Breton (Celtic) – a VSO

language known to have adopted the V2 system – displays a clear alternation between tensed verbs and overt complementisers. This is illustrated by the data below in (31)-(32):

- (31) Yann a chomje er ger, **m'**
 Yann PRT stay COND. at home if
 am bije goulet gantan.
 PRT.have.COND.1SG asked with him
 'Yann would stay home if I had asked him.'

- (32) Hennez a-vije da labouratdu-man
 that one PRT-BE.COND to work house-this
 am bije goulet gantan.
 PRT.have-COND.1SG asked with him
 '...that one would work with our family, had I asked him.'

Schafer (1995:145)

When C is filled with an overt complementiser (**m'** 'if'), as can be seen from the second clause in (31), the verb remains in situ. When C is not filled, as in (32), the particle **am** together with the auxiliary **bije** 'have' undergo movement to C. McCloskey (1991) makes a similar argument by showing that the main verb in Irish raises to C only when that position is not filled by an overt complementiser. Furthermore, this movement applies in English with the tensed/auxiliary verb in interrogative clauses. But this operation is not available to embedded clauses when C is filled with the complementiser 'that'. If C encodes discourse features, and if this position is sensitive to the overt presence of elements, this behaviour then appears to lend support to Holmberg's argument from Swedish whereby focus is phonological rather than syntactic.

The observation that V-to-C movement applies only when C is not filled is not consistent with all the facts in Tarifit. For instance, we have seen that cleft sentences in (29) and relative clauses in (30) have their C position filled yet the verb still moves to C. A close examination of the issue reveals that this has to do with the phonological form of the complementiser. The two complementisers (*n-* and *ig-*), which trigger V2 are light phonological items in the sense that they cannot receive stress independently. Note that *n-* used for clefting is not even syllabic. However, the presence of an independent phonological word like *qa* triggers no V-to-C movement. The complementiser *qa* being phonologically independent can be seen from (33):

- (33) *qa*, #iðnnat ag- u-ʃʃi#, i-nna-sn
 COMP yesterday at CS-afternoon 3M.SG-tell.PERF-3M.PL.DAT
 að- uyur-n.
 FUT go-3M.PL
 ‘Yesterday afternoon, he told them that they would be leaving.’

The complementiser can occur alone at the beginning of the sentence. In this case, *qa* is separate from the rest of the sentence with an adverbial parenthetical expression but affixal complementisers like *n-* or *ig-* cannot occur in such a position.

Interestingly, my investigation of Tarifit clitics in the next chapter sheds significant light on the behaviour of V2 and clitics in that they display the same phonological effects. The argument in support of the correlation between cliticization and V2 is well-documented in the literature (Travis 1984; 1991, Anderson 1993, Zwart 1993, Boeckx 1998, Franks 1998b, Progovac 1998c, Bošković 2002). As I show in that chapter, some of the elements which trigger the movement of clitics to the left of the main verb are complementisers. Without pre-empting my discussion of clitics, the complementisers which correlate with V-to-C movement such as *n-* and *ig-* are also clitic hosts as can be seen from (34)–(33):

- (34) iwðan n-θ i-zri-n.
 people COMP-3M.SG.OBJ 3M.SG-see-PRT
 ‘The people that saw him.’
- (35) ð-a-mkar-θ ig-θ i-kwθi-n.
 F-SG-woman-F COMP-3M.SG.OBJ 3M.SG-hit-prt
 ‘The woman who hit him.’

By contrast, the complementiser *qa* which does not trigger V2 cannot be a host to the clitic, as in (36). This explains the fact that the clitic object follows the verb.

- (36) ð-nna-(a)y qa ð-zri-θ.
 3F.SG-tell.PERF-1SG.DAT COMP 3F.SG-see.PERF-3M.SG.OBJ
 ‘She told me that she saw him.’

In view of the data presented, the main constraints which drive V-to-C movement in Tarifit can now be made explicit. This operation is not only dependent on whether C is filled with a complementiser, but this is also dependent on the phonological property of the complementiser occupying C. When C is filled with a complementiser that is phonologically

independent, such as *qa* ‘that’, no movement of V-to-C takes place. On the other hand, when C is not filled or filled with a complementiser that is phonologically dependent such as *n-* or *ig-*, the verb must move to C which explains the VS requirement. However, the natural question which suggests itself is the nature of the operation that puts the verb in C. For instance, if V2 is dependent on the phonological nature of the complementiser, would this mean that this movement is optional? If that is the case, we will then be dealing with a phonological movement since syntactic movement cannot be optional. So, in cases where the verb undergoes movement to C, since it precedes the lexical subject in Spec, TP, that movement would be phonological. However, it is not clear how this supposedly phonological movement of the verb applies across an intervening TP adverb in (37):

- (37) a-rgaz n- i-zra đkja u-qzin.
 SG-man COMP 3.M.SG-see.PERF quickly CS-dog
 ‘The man that the dog saw quickly.’

A more viable analysis which maintains the sensitivity of the movement of the verb to the phonological shape of the complementiser is to assume copy theory of movement (Chomsky 1993). Under this analysis, and if V2 in *wh*- and embedded clauses applies regardless (see Bošković 2001 for a similar analysis), the issue of whether the verb is pronounced in C or lower will be dependent on the phonological constraint discussed. Under this analysis, the verb in embedded and *wh*- clauses undergoes movement to C to check focus regardless as in (38)-(39):

- (38) [_{CP} argaz C, n- izra]
 man COMP he.saw
 [_{TP} đkja T, ~~izra~~] [_{VP} uqzin V, ~~izra~~] [_{DP} argaz]]].
 quickly ~~he.saw~~ dog ~~he.saw~~ ~~man~~
 ‘The man that the dog saw quickly.’

- (39) đ-nna -sn
 she-told -them
 [_{CP} C, qa ~~izra~~] [_{TP} đkja T, i-zra] [_{VP} uqzin V, ~~izra~~] [_{DP} argaz]]].
 that ~~he.saw~~ quickly he-saw dog ~~he.saw~~ man
 ‘She told them that the dog quickly saw the man.’

If the complementiser is an affix, as in (39), the higher copy of the verb is pronounced. If the complementiser is an independent phonological item, as in (40), the lower copy is pronounced instead.

Earlier in the chapter, when dealing with topicalization, it was argued that this feature is checked by the clitic object when the internal argument is a pronoun. Due to the constraint where the clitic cannot occupy the Spec, TP since it is preceded by nothing, it pied-pipes the verb with it resulting in the topicalization of the whole VP. The copy theory of movement can be extended naturally to this topicalization involving the clitic object. Since the clitic pronoun is the sole element that is associated with topic, the pronoun undergoes the usual movement to Spec, TP, as in (40):

- (40) [_{TP} ~~θ~~ T, ~~ð-zri~~] [_{VP} Nunʒa V ~~ð-zri~~] [_{DP} -θ]].
 ~~him~~ ~~she-saw~~ Nunʒa she-saw him
 ‘Nunja saw him.’

Due the phonological constraint where the clitic cannot be pronounced in a position where it has no host to the left, the lower copy is pronounced which allows the derivation to converge at PF. This analysis makes the VP-topicalization in Spec, TP proposed earlier redundant. Based on the fact that the object pronoun is the topic, there should no reason to move the verb with it. Furthermore, and since the pronoun not being able to stand alone in the Spec, TP is a phonological issue, copy-and-delete neatly accounts for this phonological constraint. The viability of the analysis based on copy theory of movement is that it is also proposed to account for clitic placement in the next chapter.

6.6 Conclusion

In this paper, I argued that Tarifit has shifted from VSO to a topic-prominent language. This operation is realised by moving the subject to Spec, TP when all arguments are lexical or by the clitic object when the internal argument is a pronoun. The complementary distribution between these two movement operations was attributed to the fact that Tarifit allows only one topic per a clause.

Another order, which necessarily requires verb-first was found to be a peculiarity of *wh*-operator and some embedded clauses. This was argued to be the result of V-to-C movement. As for its motivation, it was suggested that this operation is associated with focus. Following the movement of the *wh*-/DP operator to the Spec, CP, this operation activates a new position for the focus feature in C to which the verb moves allowing it to be licensed under Spec-Head.

The last section looked at the two discourse features and their implications at the syntax-phonology interface. More specifically, topic and focus

display some constraints that are phonological in nature. For instance, the object clitic, which is associated with topic undergoes movement to Spec, TP but cannot occur alone in that position due to its phonological deficiency. Similarly, the movement of V-to-C to check focus has phonological implication. Evidence was provided that the verb appears in C only when that position is not filled or filled with an affixal complementiser. I proposed copy theory of movement to deal with these language-specific PF constraints. For topic and following the movement of the clitic object to Spec, TP to mark the relevant feature, the pronoun finds itself stranded in the initial position of the clause. To avoid this PF violation, the lower copy of the clitic is pronounced yielding the V-CL-Subject order. Because the verb undergoes movement to C to check focus, it is also argued that the higher copy of the verb is pronounced when C is not filled or filled with an affixal complementiser. If this language-specific constraint is not satisfied, the lower copy of the verb is pronounced.

CLITICS

7.1 Introduction

Chapter four briefly sketched over clitic pronouns as part of the general description of the morphosyntax of Tarifit, but the current chapter provides an in-depth treatment of the whole clitic system. This includes clitic pronouns, locatives, the directive, and prepositions which all share clitic properties. That is, these generally follow the main verb but move to a position preceding it when elements like tense/aspect, negation or complementisers are present in the clause.

One of my main research questions in this chapter has to do with the discrepancy in the movement of the clitics to a position preceding the verb. While the literature on Berber generally argues that the elements mentioned above trigger the movement of the clitics to a position preceding the verb, regardless, I show that this property at least in Tarifit does not apply across the board. That is, a complementiser may trigger the movement of the clitic but another complementiser may not and the same applies to tense.

In dealing with this clitic system in Tarifit, I argue that clitics are bound by an adjacency requirement in that they cannot be split from each other and from the verb. So, they are structurally adjacent to the verb regardless of whether they are in a position following or preceding the actual verb which suggests that these are verbal clitics. In view of this fact, the clitics must move to a position preceding the verb for licensing purposes. For clitic pronouns, these are argument base generated in the argument position within the VP. Similarly, adverb clitics are also base generated inside the VP since they are VP adverbs. Following their left-adjunction to the verb, they can then merge with a prosodic host to their left at PF.

The analysis makes use of Chomsky's (1993) copy theory of movement where the movement of clitics is perceived as copying. When an eligible host to the left of the clitic is available, the higher copy of the clitic is pronounced but the lower copy is pronounced if no host is available which

results in the clitic following the verb. With respect to what constitutes a host and what does not, I argue for a language-specific phonological constraint whereby the eligible host must be a prosodic proclitic. When this constraint is met, the prosodic proclitic and the enclitic combine to cancel each other's clitic requirement and the combination is no longer a clitic, like many clitic languages.

This chapter is organised as follows. Section 8.2 is an overview of the Tarifit clitic system. Section 8.3 outlines the main tenets of my analysis. Section 8.4 tests the viability of the theory to all clitic cases. Section 8.5 looks at locative and preposition clitics. Section 8.6 concludes the chapter.

7.2 Overview

The clitic system in Tarifit may be divided into two main sets: (1) the pronominal set which consists of the object and dative clitics, and (2) the adverbial set which consists of a particle denoting direction and three locatives. In section four, I show that prepositions in Berber also display clitic-like properties in particular syntactic contexts. Pronominal clitics bear relevance to argument structure in that they can be used as substitutes for a lexical DP. Furthermore, these are the only nominals that are marked for case, in that lexical DPs do not encode case morphology. Berber also has personal pronouns, but these cannot function as arguments as pointed out in chapter four.

In terms of their form, clitics are prosodically deficient vocabulary items and can only be pronounced when combined with a phonological host. As for their linear ordering, the clitics attach to the right of their host and therefore enclitics. Descriptively, these elements encliticize to some categories which select the verb, and these are complementisers, tense/aspect morphemes and negation. In the absence of these categories, the clitics simply encliticize to the verb. However, the interaction between clitics and these elements is a general tendency in that there are other challenging issues which make this system even more interesting to current theories of clitics. More specifically, cliticization to these categories is not consistent throughout in that some are hosts but others are not.

7.2.1 Object clitics

The data below in (1) illustrate the use of an object clitic in a basic clause and its alternation with the lexical object. Note the absence of the lexical

subject in that Berber is known to be a pro-drop language as pointed out in chapter four, and this has no implications on the distribution of clitics:

- (1) a. i-zra **i-nβziw-n.**
 3M.SG-see.PERF **PL-guest-PL**
 ‘He saw the guests.’
- b. i-zr- **θn.**
 3M.SG-see.PERF **3M.SG.OBJ**
 ‘He saw them.’
- c. * i-zri **θn** **i-nβziw-n.**
 3M.SG-see.PERF **3M.PL.OBJ** PL-guest-PL
 ‘He saw them the guests.’
- d. **i-nβziw-n,** i-zri **θn.**
 PL-guests-PL 3M.SG-see.PERF **3M.PL.OBJ**
 ‘The guests, he saw them.’
- e. nθnin, i-zri **θn.**
 them 3F.SG-see.PERF **3M.PL.OBJ**
 ‘Those (people), he saw them.’

The transitive clause in (1a) makes use of a lexical object. Alternatively, a clitic pronoun may be used as a substitute for the lexical DP, as in (1b). The sentence becomes ungrammatical when the lexical object and its clitic counterpart are used both at once, as in (1c). This is evidence that Berber imposes a total ban on the doubling of the object. To the best of my knowledge, this property is generally true for all other major studied Berber languages. The lexical DP may co-occur with the clitic but only if it is left dislocated, as in (1d). However, this may not be considered a genuine case of doubling, in that the lexical DP does not occupy an argument position. A personal pronoun may also co-occur with the clitic pronoun, as in (1e), but this cannot be considered as some form of doubling either since personal pronouns cannot function as arguments. In (1e), the personal pronoun has a discourse function which generally marks the object as definite and specific.

7.2.2 Dative clitics

The data in (2) illustrate the use of the dative clitic in a basic sentence, and contribution of these pronouns to argument structure

DP checks case within the PP but the two DPs have the same theta position in the clause. In view of the correlation between the general predictions of this hypothesis and the doubling of the dative in Tarifit, I assume this position here without pursuing the issue of clitic doubling any further. So, the main concern of the chapter is the derivation and placement of the clitic paradigms in Tarifit.

7.2.3 The directional clitic

This clitic is represented by the morpheme *-d* which denotes direction and has the specific meaning of ‘(motion) towards the speaker’, as discussed in chapter four. The opposite polarity, i.e. ‘away from the speaker’, is the unmarked form. In view of its semantics, the particle is usually found with motion verbs. A good way of demonstrating the semantic contribution of this morpheme to the verb is through the concept, which is expressed in English using two verb roots: ‘come’ and ‘go’. This concept is expressed in Berber using the same lexical root, which acquires the meaning of ‘come’ (i.e. ‘towards the speaker’) when combined with the deictic *-d*, as in (4a) but defaults to ‘go’ (i.e. ‘away from speaker’) when the element is not used, as in (4b)⁶⁵. In section 8.5, I show that that this element, like other clitics, undergoes movement to a position preceding the verb when a complementiser, tense or negation is used in the clause.

- (4) a. *ǝ-uɣur-d* a- *ǝ-mɛɾa*.
 3F.SG-come.PERF-**DIR** to F-wedding_{CS}
 ‘She came to wedding.’
- b. *ǝ-uɣur* a- *ǝ-mɛɾa*.
 3F.SG-go.PERF to F-wedding_{CS}
 ‘She went to the wedding.’

⁶⁵ This particle is also found with other verbs, which do not necessarily involve motion. In (i), the closest reading of the verb ‘see’ when used with the deictic is: ‘she saw him, as he was coming towards her’. The unmarked form of the verb is neutral with regard to the directionality of the event denoted by the predicate.

- (i) *ǝ-zri-θi-d*.
 she-see.PERF-him-**DIR**
 ‘She saw him.’

7.2.4 Locative clitics

The three locative clitics which mark distance relative to the speaker and addressee were discussed in chapter four. The relevance of these locatives to the present topic is that they display clitic properties (Dell and Elmedlaoui 1989, Ouhalla 2005a). That is, they undergo movement to a position preceding the verb as will be discussed in the next section. An example of how the locative is used in the sentence is repeated, as in (5):

- (5) δ -qqim - δ in.
 3F.SG-sit.PERF there
 ‘She sat there.’

7.2.5 Clitic movement

The presence of some elements higher than the verb may trigger the movement of clitics to a position preceding the verb, which is the same for all the clitics discussed above. Cross-linguistically this behaviour, traditionally known as ‘second position’, is possibly a major criterion which makes an element qualify as a clitic. Descriptively, the categories triggering cliticization in Berber include negation, tense/aspect and wh/complementisers. This can be seen from the data below in (6)-(9):

- (6) a. $a\delta$ - **θ n** i-s-nan.
 FUT-**3M.SG.ACC** 3M.SG-CAUS-cook
 ‘He will cook them.’
 *b. $a\delta$ - i-s-nan- **θ n**
 FUT 3M.SG-CAUS-cook-**3M.SG.ACC**
- (7) a. u-s δ - α δ ɟif ʃi.
 NEG₁-**3SG.DAT** 3F.SG-divorce.PERF NEG₂
 ‘She did not divorce him.’
 *b. u- δ - α δ ɟfa-s ʃi.
 NEG₁ 3F.SG-divorce.PERF-**3SG.DAT** NEG₂
- (8) a. δ -a-frux- θ i(g)-**d** i-uɣur-n a- δ -mɛra.
 F-SG-girl-F COMP-**DIR** 3M.SG-go-PRT to F-wedding_{CS}
 ‘The girl who came to the wedding.’

*b. δ -a-frux- θ i(g) i-uyur-n-**d** a- δ -m $\bar{w}$ ra.
 F-SG-girl-F COMP 3M.SG-go-PRT- **DIR** to F-wedding_{CS}

(9) a. δ -a-frux- θ i(g)- **δ in** i-qim-n.
 F-SG-girl-F COMP-**there** 3M.SG-sit.PERF-PRT
 ‘The girl who sat there.’

*b. δ -a-frux- θ i(g)- i-qim-n- **δ in**.
 F-SG-girl-F COMP 3M.SG-sit.PERF-PRT-**there**
 ‘The girl who sat there.’

The data above are representative of some sentences used in the previous section, with an additional element to the left of the verb. The object clitic was shown earlier, in (1b), to encliticize to the main verb but the same clitic, in (6a), is now hosted by the future morpheme $a\delta$ - in that it is to the left of the verb. This applies to the dative, in (7a), the directional, in (8a), and the locative, in (9a). In these sentences, the clitic does not follow the verb but appears to the right of the higher element. The option of clitics following the verb is ruled out, as can be seen from the ungrammaticality of the (b) sentences.

Two other properties relative to the clitic system of Tarifit are of note. First, when more than one host is used within the same clause the eligible host is always the one that is left adjacent to the verb. This can be seen from (10)-(11):

(10) u- $a\delta$ - **θ nd** i-zri $\bar{f}$ i.
 NEG₁ FUT-**3F.PL.OBJ** 3F.SG-give NEG₂
 ‘He will not see them.’

(11) a. u-s i-nni $\bar{f}$ i
 NEG₁-**3M.SG.DAT** 3M.SG-say.PERF NEG₂
 qa $a\delta$ - **θ nd** i-zra.
 COMP FUT-**3F.PL.OBJ** 3M.SG-see
 ‘He did not tell him that he will see them tomorrow.’

b. u-s i-nni $\bar{f}$ i
 NEG₁-**3M.SG.DAT** 3M.SG-say.PERF NEG₂
 qa i-zri- **θ nd**.
 COMP 3M.SG-see-PERF-**3F.PL.OBJ**
 ‘He did not tell him that he saw them.’

These constructions are like (6)-(9) discussed above in that they involve a functional element selecting the main verb but differ in that the clitics still follow the verb. Sentence (12) has the future imperfective *ataf* but the clitics follow the verb. The same rule applies to (13) and (14) which involve the complementisers *qa* 'that' and *mara* 'if', respectively. This property is not exclusive to these functional elements only but there are other elements displaying the same behaviour. A more comprehensive list of functional elements, mainly complementisers and *wh*-elements, that trigger the clitics to precede the verb and the ones that do not will be discussed in section 8.3. Based on these facts, it can then be granted that some elements, like the ones discussed in (6)-(9) are clitic hosts whereas others like (12)-(14) are not. The discrepancy between a host and a non-host may prove problematic for some classical studies which argue that clitics undergo syntactic movement to their (functional) host (Rizzi 1991, Belletti 1999 among many others). This general claim was mainly put forward to account for clitics in Romance. This theory predicts instances like (6)-(9), which show evidence of clitic movement due to the presence of (future) tense or negation, but the view is complicated by sentences like (12)-(14) which involve a functional element selecting the verb but there is no indication that the clitics undergo movement to these elements.

Berber clitics were subject to some attention in the literature but the discrepancy between a host and a non-host was not generally the concern of these works. For instance, Boukhris (1998) argues that Tamazight clitics undergo phrasal movement to the edge of *vP*, and then cliticize phonologically to the closest functional head to the left. If there is not one, the verb raises at PF as a requirement for the clitics to have a host. Ouali (2011) argues from another variety of Tamazight that '... any overt head can act as a host to the clitic' (Ouali 2011: 122). He adopts Sportiche's (1998) proposal according to which clitics have a fixed position occupying their corresponding functional heads above *VP*, with the verb occupying the head of *AspP* and is positioned between the *VP* and these functional projections. When an overt functional category is present higher in the clause, the clitics find themselves conveniently adjacent to this category and merge with it at PF. If no overt category is present, the verb undergoes phonological movement from *Asp* to *T*, where *T* is above the clitic projections, and therefore serving as the prosodic host to the clitics.

To the best of my knowledge, Ouhalla (2005a) was the only work who observed the discrepancy between functional elements that are hosts and the ones that are not. This observation was noted from a few Berber languages including Tarifit, Tamazight, Tashelhit and Tuareg. Ouhalla argues that

clitic pronouns move from within the VP and left-adjoined to the functional category, which is consistent with proclisis as proposed for Romance by Kayne (1989, 1991, 1995). Since Berber makes use of enclisis, the clitic then undergoes a prosodic operation that puts it to the right of the functional category. When no overt functional element is present, it is the verb that undergoes inversion and moves to the left the clitic yielding the V=CL order. Since clitics are attracted by a functional category only, according to Ouhalla, the elements that are not hosts are attributed to grammaticalization in the sense that these have now become lexical which prevents them from attracting the clitic. While the assumption may be true for the specific elements discussed by Ouhalla, the list of these items is not exhaustive. For instance, I show in section four that there are many elements which are functional in Tarifit yet do not trigger the movement of the clitics. I should also add that the works discussed, regardless of their differences, all assume some sort of phonological movement of the verb in addition to the movement of the clitics which generates the V=CL order. When outlining my theoretical proposal in the next section based on copy theory of movement, I show that this last resort phonological movement is not needed.

The discrepancy between a host and a non-host is one of my main research questions that the chapter seeks to address. In my analysis, in the next section, I argue for a syntactic movement of the clitics to the left of the verb, but the operation that puts them to the right of the functional category is attributed to a PF constraint having to do with the prosodic nature of the host. An additional issue that this chapter seeks to investigate has to do with various clitics found in Berber. The literature on Berber clitics is generally limited to clitic pronouns only, whose main concern was the contribution of these pronouns to argument structure and the mechanisms responsible for their placement. This chapter takes the study of Tarifit and Berber clitics more broadly a step further by bringing all other clitics within the range of the analysis. This includes locatives, the directional clitic, and preposition clitics.

7.3 The analysis

As discussed in the overview, Berber clitics share several properties. First, these are enclitics in the sense that they are suffixes which makes them attach to the right of their host. Secondly, and most importantly, they display an adjacency requirement in that they cannot be split from each other and from the verb. So, they are all structurally adjacent to the verb regardless of whether they are in a position following or preceding the actual verb. In

chapter four, we showed that the distribution of adverbs is flexible in that they can be inserted almost anywhere. This repeated here, as in (15):

- (15) a. (**ǫya**) Nunʒa (**ǫya**)
 (quickly) Nunʒa (quickly)
 ǫ-ʒsi (**ǫya**) a-qrab (**ǫya**).
 3.F.SG-take.PERF. (quickly) SG-bag (quickly)
 ‘Nunja took the basket quickly.’
- b. *ǫ-ʒsi **ǫya** -θ.
 3.F.SG-take.PERF. quickly 3.M.SG.OBJ
 ‘She took it quickly.’
- c. *aǫ--θ **ǫya** ǫ-ʒsi.
 FUT.3.M.SG.OBJ quickly 3.F.SG-take.PERF.
 ‘She will take it quickly.’

In (15a), the highlighted adverb can be inserted at the beginning of the sentence, between the subject and the verb, between the verb and the object or at the end of the sentence. However, this distribution becomes constrained when clitics are used. In (15b), the object is a clitic which follows the verb but the insertion of the adverb between the verb and the clitic is ruled out. Similarly, sentence (15c) involves negation and the clitic now precedes the verb but the sentence is ungrammatical due to the presence of the adverb between negation and the verb. Breaking a clitic cluster is equally problematic following or preceding the verb, as in (16a&b):

- (16) a. *i-sqaǫ -asn -t **ǫya** -id.
 3.M.SG-send.PERF 3.M.PL.DAT 3.F.SG.OBJ quickly DIR.
 ‘They sent it to him.’
- b. *aǫ- -asn **ǫya** -t id i-sqaǫ.
 FUT.3.M.PL.DAT quickly 3.F.SG.OBJ DIR. 3.M.SG-send
 ‘They will send it to them.’

This suggests that Tarifit clitics display an adjacency requirement in that they cannot be split from each other and from the verb. So, they are all structurally adjacent to the verb regardless of whether they are in a position following or preceding it. Also important is that this rule applies to all clitics regardless of their categorial status (pronominal or adverbial). These properties are often argued to be typical of verbal clitics. For instance, Bošković (2001: chapter 4) discusses at length Bulgarian verbal enclitics which display all the properties outlined relative to Berber. The tight

relationship between the verb and enclitics was equally reported from Romance languages by Cardinaletti (1999) among many others. In fact, Cardinaletti referring to Benincà and Cinque (1993) and Renzi (1989) argues that Romance languages that have proclitics allow lexical elements to intervene between clitics and the verb (Old Italian, literary French, Modern Triestino) but enclitics cannot be separated from the verb. Furthermore, Cardinaletti reports that the adjacency requirement of enclitics is also found in Slavic referring to Starke (1993).

Due to the adjacency requirement between the verb and the clitics, I argue that Tarifit clitics are verbal clitics. Syntactically, these have a verbal feature which they must check by left adjoining to the verb for them to be licensed. The movement of the clitic to left of the verb could also be interpreted as an attraction by the verb. For clitic pronouns, these are arguments base generated in the VP then left-adjoined to the verb. Similarly, the adverbial clitics such as the directional and locatives are also based generated in the VP in that they are VP adverbs and undergo the same movement⁶⁶. See also Rivero (1994) for a similar movement of clitic adverbs in Romanian from a position within the VP to a higher position to the left of the verb, on basis of the fact that adverb clitics in that language are verbal clitics. Note that our proposed analysis argues that clitic pronouns are base generated within the VP and therefore arguments/XPs but undergo movement to the verb which makes them behave like heads. In view of this fact, I take here the view proposed by Chomsky (1994) where clitic pronouns are ambiguous between XPs and X⁰s. For a similar view see also Belletti (1999), Sportiche (1989) and Uriagereka (1995). The basic proposal regarding the movement of the clitics is illustrated from the abstract structure in (17) using the clitic object. The detail of various derivations will be made explicit after outlining all the tenets of my analysis.

(17) [_{VP} CL_{OBJ}=V] [_{DP} CL_{OBJ} ...]].

With the clitics left adjoining to the verb, I wish to further motivate an optimal approach which deals with Berber clitics using copy theory of movement (Chomsky 1993). Under this approach, some phonological implications of clitics, as will be shown, are not accounted for in terms of

⁶⁶ The directional clitic follows the two pronouns and is equivalent to an adverbial PP involving the preposition *a-* ‘to/towards’, denoting a goal and a DP. In section 8.4, we will see that the phrase equivalent of the locative clitic is a locative PP which also occupies the same complement position within the VP.

phonological movement but by phonology filtering the syntactic output through the device of copy-and-delete. It must be pointed out though that Chomsky's (1993) original proposal argues for the idiosyncrasy whereby the head of the movement chain is the copy eligible for pronunciation. Subsequent works exploring the theory in the context of a wider empirical coverage have since argued that the tail (i.e. lower copy) may not be deleted if the pronunciation of the higher copy leads to PF violation (Bobaljik 1995; 2002, Nunes 1999, Franks 1998, Bošković 2002, 2007, Bošković and Nunes 2007 among many others). For instance, Bošković (2002), see also Bošković and Nunes (2007), discusses multiple *wh*-fronting in many languages including Romanian which requires all *wh*- words to be fronted, as in (18):

- (18)a. Cine ce precede?
 who what precedes
- b. *Cine precede ce?
 whoprecedes what
 'Who precedes what?'

The ungrammaticality of (18b) according to him is due to the fact that the second *wh*- is not fronted. By contrast, Bošković shows that there are data in Romanian which show the opposite effect. Consider the sentences in (19):

- (19)a. Ce precede ce?
 what precedes what
 'What precedes what?'
- b. *Ce ce precede?
 what what precedes
 What precedes what?'

Bošković & Nunes (2007: 17)

The second *wh*-, in (19a), is not fronted yet the sentence is grammatical but fronting the two *wh*- words yields an ungrammatical sentence, as in (19b). Bošković attributes the ungrammaticality of (19b) to a PF constraint whereby homophonous *wh*- words cannot be fronted next to each other. To avoid this phonological constraint, the lower copy of the *wh*- is pronounced instead⁶⁷. In my discussion of Tarifit clitics, I show that the discrepancy

⁶⁷ Similarly, object shift in Scandinavian according to Holmberg (1986) can take place in matrix main V2 clauses but not in auxiliary + participle clauses and embedded clauses that do not involve V2. Adopting copy-and-delete, Bobaljik

between a host and a non-host is also due to a language-specific PF constraint which applies following the syntactic movement of the clitics to the left of the verb. I shall argue how this analysis can account for Tarifit clitics in a principled way without necessarily appealing to ‘last resort’ phonological movement. Although some data discussed earlier appeared empirically problematic in many ways, I will demonstrate that Tarifit clitics and Berber more broadly bear a behaviour that is fairly similar to other clitic languages if movement is perceived as copying.

Based on the hypothesis that clitics in Tarifit are based generated in the VP and then left-adjoined to the verb, and assuming copy theory of movement, the abstract structure which generates the clitics is schematised as in (20):

- (20) a. $X = \text{CL } V \text{ } \overline{\text{CL}}$.
 b. $\overline{\text{CL}} \text{ } V \text{ } \text{CL}$.

This operation yields two copies of the clitics in the movement chain. When a host to the left is present, the higher copy is pronounced, as in (20a). If no host is available, the lower copy of the clitic is pronounced as a last resort for the derivation to converge at PF, as in (20b). See also Bošković (2001) who proposed a similar analysis in his work on South Slavic clitics. Crucial to the analysis is that the clitics do not move in the syntax directly to the host, but the movement is to the left of the verb. From there, the clitics can prosodically encliticize to a host.

The configuration in (20) accounts for instances where the clitics appear to the left of the verb, as in (20a), and for cases where no element is to the left of the verb, as in (20b). However, the same configuration does not account for cases where a complementiser is present, but the clitics still follow the verb as seen earlier. For these cases, I wish to argue for a language-specific phonological constraint that lies at the heart of what counts as a prosodic host and what does not. This generalisation is outlined, as in (21):

- (21) “*Clitics can prosodically be hosted by a preceding element only if it is a proclitic*”.

(2002) argues that non-contrastive definite NPs still undergo object shift even in embedded and auxiliary + participle constructions. However, the fact that the surface representation shows the object pronoun following the verb is due to the pronunciation of the tail of the movement chain. According to him, the higher copy of the object cannot be pronounced since it is in a position of interference between the I/particle and the verb. To avoid this PF violation, the lower copy of the object is pronounced.

In my discussion of the data, I will demonstrate that only elements that are prosodic proclitics in the sense of Klavans (1985) and Selkirk (1996) can host the clitics⁶⁸. If the right combination as outlined, in (21) is not met, enclisis fails to apply. This makes the clitic stranded without an eligible prosodic host which forces the pronunciation of the lower copy⁶⁹. Generalisation (21) is abstractly represented as in (22), where *X-* is a variable for a prosodic proclitic:

(22) *X-* -CL V $\overline{\text{CL}}$.

Following the movement of the clitic to the left of the verb, the proclitic combines with the enclitic and the two elements cancel each other's clitic requirement. I show later in the chapter that this typology where clitics combine with each other is not exclusive to Berber but is widely attested in many clitic languages⁷⁰.

7.4 Clitic placement

After outlining the tenets of my analysis, let us now test its viability in account for a basic sentence involving clitics, as (23), look at a basic derivation like (23) which involves the object and the directive clitics:

(23) a. *að-* -θ -id i-çsi.
 FUT.3.M.SG.OBJ DIR. 3.M.SG-bring
 'He will bring him.'

⁶⁸ A difference must be made here between prosodic clitics and syntactic/second position clitics that are required to move in the syntax. Selkirk refers to functional categories that are bound morphemes (i.e. prosodic clitics) as 'affixal clitics' and the ones that are free morphemes as 'non-affixal clitics'.

⁶⁹ Bošković (2001) argues for a slightly different language-specific PF constraint where the clitic host in South Slavic can be any phonological item (functional or lexical) insofar as this element is part of the same intonational phrase as the clitics. The broad tenets of the analysis proposed follows from the same reasoning as the one proposed by Bošković for South Slavic clitics, which shows the cross-linguistic viability of the theory. However, the PF constraint available to South Slavic and Berber can easily be parameterised whereby Berber appears to have a more straightforward parameter which simply requires the host to be a prosodic proclitic.

⁷⁰ Note that cliticization as being dependent on the prosodic nature of the host was pointed out by Ouhalla (1989) on his work on Tarifit. Although Ouhalla's analysis is different from the one proposed here, in that cliticization was taken to be syntactic, he argued explicitly that clitics in Tarifit undergo movement to an affixal head.

- b. aǝ- [_{VP} -θ -id i-çsiv] [_{VP} -θ -id i-çsi V]
 FUT.him_{OBJ} DIR he-bring him_{OBJ} -DIR he-bring
 [_{DP} -θ, id]].
 him_{OBJ} DIR
- c. [_{VP} -θ -id i-çsiv] [_{VP} -θ -id i-çsi V]
 him_{OBJ} DIR he-bring him_{OBJ} -DIR he-bring
 [_{DP} -θ, id]].
 him_{OBJ} DIR

In view of the verbal status of the clitics which requires them to left adjoin to the verb for licensing purposes, as argued earlier, the directional clitic left-adjoints to the verb in V followed by the object clitic. The complex then undergoes movement to v so that the verb can check the agentive/causative there. Note that the option of the movement of the two clitics to the left of the verb in V rather than delaying this movement until the verb raises to v may be preferred for considerations of economy, in view of ‘the shortest move’ requirement (Chomsky 1995). This option is also consistent with the Earliness Principle (Pesetsky 1989) which ensures that the movement operation applies as soon as its context is met. The clitic-verb complex may undergo further movement to T if we follow the broadly accepted hypothesis in the Berber linguistic tradition where the verb moves to T. The final destination of this movement puts the two clitics to the right of the future marker. Since this morpheme is a proclitic, the directional and object enclitics prosodically encliticize to the prosodic proclitic and the combination is no longer a clitic. In view of this, nothing goes wrong in phonology, so the higher copy of the clitics is pronounced. By contrast, the clitics follow the verb when no element is to the left of the clitic, as in (23c). The clitics in this configuration undergo the same movement as (23b). Because the clitics in (23c) have no prosodic host to the left, this leaves them stranded in the initial position of the clause which forces the pronunciation of the lower copy. A further advantage of the analysis is that it predicts the surface order of the clitics which is the same preceding or following the verb (i.e. the object clitic followed by the directive clitic). Under copy-and-delete, there is no need to invoke any additional movement (phonological or syntactic) to account for the two alternations.

7.4.1 The dative clitic

Before moving to test the proposed hypothesis on other various elements, this section examines a particular behaviour of the dative having to do with its ordering within the clause and in relation to other clitics. Consider the

data below in (24a) which involves the two clitic pronouns (object and dative) and the directive clitic:

- (24) a. i-sqað -asn -θ -id.
 3.M.SG-send.PERF 3.M.PL.DAT 3.F.SG.OBJ DIR.
 ‘They sent it to him.’

The surface order of the sentence has the dative immediately following the verb which is then followed by the object and the directive, respectively. The same order is maintained when the clitics precede the verb in the presence of the future morpheme, as in (24b):

- b. að- -asn -θ id i-sqað.
 FUT.3.M.PL.DAT 3.F.SG.OBJ DIR. 3.M.SG-send
 ‘They will send it to them.’

This typology does not seem to be consistent with the proposed analysis. For instance, it is argued that the two clitic pronouns (object and dative) are base generated in the argument position. The analysis also predicts that the position of the clitic pronouns following the verb (i.e. pronunciation of the lower copy) represents their base generated position within the VP and that this position is the same as the one occupied by their lexical counterparts. In section 8.2, we have seen that the dative follows the object DP when these arguments are lexical, as in (25):

- (25) ð-uða ð-i-sira i- aða-s.
 3F.SG-give.PERF F-PL-shoe to father-3SG.POSS
 ‘She gave shoes to her father.’

If the clitic pronouns occupy an argument position as we argue, we will then expect the dative clitic to follow its object counterpart but this is not supported by (24a), since it is the object pronoun that follows the dative in that sentence. Furthermore, Larson’s (1988) double object structure argues that the IO which precedes the DO in English is derived through movement from a position following the DO.

In the face of this discrepancy in order between the dative clitic and its lexical PP counterpart, I depart slightly from Larson (1988) and wish to adopt an alternative view which argues that the IO of a complex predicate is underlyingly higher than the object (Harley 1995, Marantz 1993, Pesetsky 1995, Pylkkänen 2002 among others). According to this view, in its various forms, the double object construction and the *to*-dative are derivationally different and that the verb in that case may vary in its selection depending

on the syntactic context. One of the main arguments often used in support of different underlying structures for the double object and the dative complement is that the IO in the former configuration must be animate but this property does not necessarily apply to the dative complement. It is also argued that the IO has a meaning of possession, a property that is not shared by the dative complement (Harley 1995)⁷¹.

While the lexical dative PP in Tarifit and Berber more broadly is animate in that the phrasal complement involves a benefactive preposition and a recipient DP, there is evidence that the configuration involving the dative clitic, which I take to correspond to the IO in a double object construction similar to English involves possession in Tarifit. Consider the data below in (26a&b):

- (26) a. zri-n ǧ-amkar-θ.
 see.PERF-3M.PL F-woman-F
 ‘They saw the woman.’
- b. zri-n-as ǧ-amkar-θ.
 see.PERF-3M.PL-3SG.DAT F-woman-F
 ‘They saw his wife.’

The sentences above make use of the transitive verb *zra* ‘see’. Sentence (26a) simply involves the object as an internal argument whereas (26b) involves the same object and a dative clitic preceding it. Crucial to the presence of the dative clitic is that the pronoun in this case does not correlate with an additional dative argument but simply involves possession and the clitic has the role of a possessive pronoun modifying the object/possessor. In addition to having a possessive role and therefore supporting the relevant literature discussed which associates this property with the IO, the dative pronoun in (26b) does not correspond to the benefactive lexical PP. This explains the productive use of the dative pronoun with many verbs that are not typically ditransitive simply because the pronoun expresses possession, unlike the dative PP construction which involves the benefactive *i-* ‘to/for’

⁷¹ Harley (1995) points out to the difference in interpretation between sentence (i) and (ii) discussed by Kayne (1975). Kayne observes that the *for*-benefactive in (i) may not involve possession (i.e. the woman does not have a child but expecting one/pregnant or planning to). By contrast, the IO (baby) in (ii) must have a possessor role (i.e. it must be animate and exists).

- (i) I knitted this sweater for our baby.
 (ii) I knitted our baby this sweater.

selecting a recipient DP⁷². If dative pronouns involve possession and do not always correlate with the dative PP, it makes more sense then to argue that clauses which use the dative pronoun as an argument are not derivationally related to the dative lexical PP and that the dative clitic is base generated there similar to the claim discussed regarding the English double object construction. Furthermore, this claim is supported by the fact that the lexical dative PP is also allowed in a position preceding the DO as seen in section 8.2.2. This order is not exclusive to Tarifit but was also reported from other Berber languages including Tamazight (Ouali 2011). The advantage of the proposed analysis is that it provides for two copies of the clitics above and below the verb, where the dative precedes the object in both cases. By contrast, assuming the dative pronoun to be base generated in the same position as the dative PP (i.e. following the object) yields the wrong order: *V-OBJ-DAT. For a similar analysis, see Bošković (2001: 186-187) in his treatment of Bulgarian clitic pronouns which behave the same as Berber; they are enclitics and the dative precedes the object after or before the verb. Under an analysis where the dative clitic is base generated in the Spec, VP, the relevant data are accounted for straightforwardly as can be seen from (27):

- (27) a. aǝ- [vp -asn-t-id ǝ-sqaǝ v]
 FUT.them_{DAT}-it_{OBJ}-DIR send
 [vp -asn-t-id ǝ-sqaǝ V ... -t, id]].
 them_{DAT} it_{OBJ} DIR send it_{OBJ} DIR
 ‘She will send it to them.’
- b. [vp v, -asn -t -id ǝ-sqaǝ]
 them_{DAT} it_{OBJ} DIR send
 [vp asn V, - t id ǝ-sqaǝ] [DP -t, id]].
 them_{DAT} it_{OBJ} DIR send it_{OBJ} DIR
 ‘She sent it to them.’

⁷² Additional empirical evidence which shows that dative pronouns express possession in Tarifit comes from kinship nouns. Without pre-empting my discussion of this noun set relative to cliticisation in section 8.4.6, these elements are inalienable affixal roots which cannot be interpreted without possessive pronouns they combine with. Significantly, the pronouns that kinship roots select as possessives are dative clitics as can be seen from (i):

- (i) uma-s.
 brother-3.SG-DAT
 ‘His/her brother.’

Sentence (27a) involves the future marker dominating the clause, the verb in V, the dative clitic in its specifier and the object clitic in the complement position followed by the adverbial directive. The directive is left adjoined to the verb in V followed by the object clitic and the complex then undergoes movement to v. Assuming a c-command condition on overt movement, the dative cannot move to v before the movement of the verb there. So, following the movement of the complex clitics + verb to v, the dative can then left-adjoin to the complex. When an eligible host is present to the left, as in (27a), which motivates the pronunciation of the higher copy, the right order is predicted with the dative followed by the object, the directive, and the verb. When no host is available to the left, which motivates the pronunciation of the lower copy, as in (27b), the right order is also predicted with the dative followed by the object and the directive. The next section tests the viability of the proposed analysis to all the alternations found in Tarifit, including cases where a phonological material is present to the left, but the clitics still follow the verb.

7.4.2 Cliticization: negation

Another case where the clitics in Tarifit precede the verb is found in clauses which make use of negation. This can be seen from the sentence below in (28) where the object clitic precedes the verb:

- (28) u- -**0n** i-zri jī ~~0n~~ gi ssuq.
 NEG₁ 3M.PL.OBJ 3M.SG-see NEG₂ ~~3M.PL.OBJ~~ in market
 ‘He did not see them in the market’.

To the best of my knowledge, this property applies to the major studied Berber languages. This is expected according to the proposed analysis due to the presence of phonological material to the left of the clitic represented here by negation. Like the future morpheme *að-* seen previously, the negative particle is an eligible host in that it is a prosodic proclitic. The combination of negation and the object clitic makes them prosodically tonic and their cliticization at PF is satisfied from within⁷³. Cases where clitics

⁷³ Note that when the (prosodic) proclitics have no enclitic to combine with, they left-adjoin to the verb as a last resort to have an interpretation at PF. This can be seen from the assimilation of the consonant of the future tense and the following consonant that is part of subject agreement, in (i):

- (i) að- ð-zar = /atzar/ aba-s.
 FUT 3F.SG-see father-3SG.POSS
 ‘She will see her father.’

combine with each other is not exclusive to Tarifit but is widely attested in many clitic languages. For instance, Bošković (2001:161) provides evidence from Bulgarian where the proclitic *šte* ‘will’ and the enclitic *si* ‘be’ combine to cancel each other’s clitic requirement. Other additional evidence regarding the combination of proclitics and enclitics includes Halpern (1995), Inkelas (1990), and Franks and King (2000).

7.4.3 Cliticization: Tense/aspect

In addition to the future marker *aḏ-* which we showed to be a clitic host, there are two other tense/aspect morphemes which are not clitic hosts. These are *ataf* → [FUTURE-IMPERFECTIVE] and *ara* → [PAST-IMPERFECTIVE]. The first element is illustrated, as in (29):

- (29) *ataf* , ~~0n~~ *i-zari* ~~0n~~ *gi ssuq.*
 FUT.IMPERF 3M.PL.OBJ 3M.SG-see 3M.PL.OBJ in market
 ‘He will be seeing them in the market.’

Despite the presence of *ataf*, the clitic object follows the verb in (29). This is expected in that this morpheme is not affixal and receives stress independently, which violates Condition (21) that requires not only the prosodic host to be affixal but also a proclitic/prefix. Evidence that this functional verb is an independent phonological verb comes from the fact that it can be used as an emphasised element and phonologically separate from the rest of the clause, as in (30):

The combination of the two fricatives yields a corresponding stop: [ð] + [ð] → [d], which is a fairly productive process in Tarifit. The same operation also applies to the negative particle in (ii):

- (ii) *u-* *i-zri* = /uʒzri/ *ʃi Nunʒa.*
 NEG₁ 3M.SG-see.PERF NEG₂Nunja
 ‘He didn’t see Nunja.’

Because negation is a prosodic clitic, it merges with the following verb when no clitic is present. This can be noticed from the assimilation of subject-agreement *i-* ‘he’, becoming the corresponding glide due to the widely attested phonological constraint that bans vowel hiatus in Berber. It is important to note that this process does not arise when negation cliticises with the object clitic, as in (iii):

- (iii) *u-t* *i-zri* *ʃi.*
 NEG₁-3F.SG.OBJ 3M.SG-SEE-PERF NEG₂
 ‘He didn’t see her.’

- (30) *ataf* , *Nunza* *ð-ɣur*.
 FUT.IMPERF *Nunza* 3F.SG-go
 ‘Nunja would be gone.’

Of particular importance is that *ataf* precedes the tropicalized subject, which suggests that it is left dislocated expressed here with a comma. Note that the future morpheme *að-* cannot occupy the same position as *ataf* in (30). This is expected in that an affixal element cannot be separated from the rest of the sentence. In view of the fact that *ataf* can occur as an independent phonological item, including the fact that it can be focused and therefore prosodically separate from the rest of the clause, this does not make it an eligible prosodic host to the clitic. In that case, the object clitic in (29) cannot encliticize to it which forces the pronunciation of lower copy.

As for *ara* → [PAST-IMPERFECTIVE], its surface form appears somewhat misleading. For instance, El Hankari (2010) treated *ara* as a single morpheme. Consider its use in a basic sentence like (31):

- (31) *ara* ~~*0n*~~ *i-zari* ***0n*** *gi ssuq*.
 FUT.IMPERF ~~3M.PL.OBJ~~ 3M.SG-see 3M.PL.OBJ in market
 ‘He was seeing them in the market.’

As can be seen, the clitic object still follows the verb which implies that the verbal functional element is not a prosodic host to the clitic. However, a careful examination of this element suggests that it is morphosyntactically complex consisting of the emphatic discourse marker *a-* and the verbal element *-ra-* equivalent to the copula ‘be’ in English⁷⁴. Evidence in support of the decompositional nature of *a-ra* comes from some cases where the verbal element is used at the exclusion of *a-* as in (32):

- (32) *a-frux* *i-* *-ra-* ***-0n***
 SG-boy COMP was 3M.PL.OBJ
 i-t-wara-n ~~*0n*~~
 3M.SG-IMPERF-see-PRT ~~3M.PL.OBJ~~
 ‘The boy who was seeing them.’

⁷⁴ The discourse marker morpheme is also found in an interjection or vocative kind of construction as in (i). Note the phonologically driven epenthetic glide [j] due to the constraint that prohibits vowel hiatus in Berber.

- (i) ***a-(j)*** *a-mɣum!*
 CONJ. SG-silly
 ‘Hey, silly man!’

Importantly, the past imperfective morpheme becomes a prosodic host to the clitic object since the latter precedes the verb in that sentence. Using the complex form, *a-ra* is ungrammatical as in (33):

- (33) **a-frux* *i-* *a-* *-ra-* *θn*
 SG.boy COMP COMP was 3M.PL.OBJ
 i-t-wara-n *θn*.
 3M.SG-IMPERF-see-PRT ~~3M.PL.OBJ~~

Two points can be induced from this: (1) the bare form of the past imperfective (i.e. without *a-*) is only used in sentences that have a complementiser as in (32), (2) only the bare form is a prosodic host to the clitic. Assuming that C is filled with the discourse marker *a-* in a basic CP projection, its co-occurrence with another discourse marker such as the complementiser *i-* occupying the same position is not allowed which explains the ungrammaticality of (33). So, it turns out that the combination of the discourse marker and the past imperfective is only used in the initial position of the clause where *a-ra* is in CP, like *ataf* → [FUTURE-IMPERFECTIVE]. The fact that the past imperfective appears with the discourse marker also suggests that *-ra-* may have undergone movement from T to C. In this case, the complex *a-ra* combines as a single phonological unit and receives stress independently of the rest of the clause which prevents the verbal element from prosodically hosting the clitic. When the past imperfective is used alone, as seen in (32), the verbal element becomes a clitic host since it is a prosodic clitic. This motivates the pronunciation of the higher copy of the clitic, which explains why the actual pronoun is in a position preceding the main verb.

Assuming a basic structure where the discourse domain consists of a CP, and in view of the fact that *a-* is a discourse marker occupying C, the derivation which has *a-* combined with *-ra-* should be the result of incorporation of the copula to the discourse marker in C yielding the surface form: *a-ra*. In that case, *a-* + *ra* becomes an emphasised word where the focus is on the aspectual property of the sentence represented here by the function verb *-ra-* (PAST-IMPERFECTIVE)⁷⁵.

⁷⁵ Further evidence that the complex [*a-* + *-ra-*] is focused higher and separated from the rest of the clause comes from the fact that *a-ra* can cooccur with the topicalised subject in Spec,TP as in (i):

- (i) *a-ra#*, #*Nun3a#*, ~~*θn*~~ *θ-t-wara* *θn*.
 COMP-PAST.IMPERF Nunja ~~them-OBJ~~ 3F.SG-IMPERF-see them.OBJ

The reader may have noticed that the past imperfective *-ra-* takes the discourse marker to its left (*a-* + *-ra*) or the clitic to its right (*ra-* -CL). This is because *-ra-* is both a prefix and a suffix. Evidence in support of the claim comes from the way this root inflects when used as the main copulative verb like ‘be’ in English, in (34)-(35):

(34) mani i-rra = /idʒa/?
 where 3M.SG-be.PERF
 ‘Where is he?’

(35) mani rra-n = /dʒa-n/?
 where 3M.SG-be.PERF
 ‘Where are they?’

The lexical form of the verb can either take subject agreement as a prefix, as in (34), or as a suffix, as in (35), and this is dependent on the kind of person used. When the root combines with an affix (prefix or suffix), it becomes a phonological element that is stressed independently and ceases to be affixal. Note some morph-phonological processes which may apply to a lexical root when marked for aspect/tense⁷⁶. The affixal nature of *-ra-* ‘be’ is consistent with the morphology of lexical roots being bound morphemes, like the Semitic system though Berber roots are not always consonantal (Cadi 2006 and Ouhalla 1988). When *-ra-* undergoes incorporation to C to adjoin to *a-* yielding *a-ra*, the copula encliticizes to *a-* at PF since the latter discourse marker is a proclitic. When the copula is used as a bare element alone and following the movement of the clitic to the left of the main verb, as seen in (32), the enclitic can still cliticize to the right of the copula similar to the subject agreement morpheme, in (35), which is realised as a suffix⁷⁷. The behaviour of the past imperfective is one of the strongest pieces of evidence in support of the proposed analysis which attributes cliticization

Note that both the focused *a-ra* and the topic *Nunja* form their own intonational phrase indicated by the phonological boundary ‘#’. A prosodic host like the future morpheme *að-* cannot occupy the same position as *a-ra*.

⁷⁶ In (35)-(36), the consonant [r] undergoes a process of strengthening when the copula *-ra-* ‘be’ is marked for perfective through gemination. As a result, the combination of [r] + [r] is realised as the voiced affricate [dʒ].

⁷⁷ Regarding the use of this verbal element in some other Berber varieties, Tamazight Berber has only the basic/reduced form realised as *la* and used as a marker of present tense (Boukhris 1998, Ouali 2011). Note the rhoticisation of [l] in Tarifit as part of a phonological innovation process discussed in chapter four. Significantly, the basic form *la* ‘be’ found in Tamazight is a clitic host and therefore consistent with the behaviour of *-ra-* ‘be’ in Tarifit.

to the phonological shape of the host. In that case, the copula is a clitic host only when used in its bare form.

7.4.4 Cliticization: wh- words

Like the elements discussed above, wh- words may be divided into two sets, one that triggers the appearance of the clitics to a position preceding the verb and another where the clitics follow the verb. A list illustrating the clitic properties of these elements is represented as in (36):

(36)

WH- WORDS & CLITICISATION			
[+CLITIC]		[-CLITIC]	
<i>mani</i>	‘where’	<i>ma</i>	‘whether’
<i>maʁa</i>	‘why’	<i>mara</i>	‘if’
<i>mrmi</i>	‘when’ _[+INTER]	<i>maʁa</i>	‘but’
<i>mri</i>	‘if’	<i>niʁ</i>	‘or’
<i>mux</i>	‘how’	<i>qa</i>	‘that’ _[Comp]
<i>n-</i>	‘relative’		
<i>wami</i>	‘when’ _[+INTER]		

Consistent with the analysis proposed here where the clitics preceding the verb implies that the element to left of these clitics is a prosodic host, the set of wh- words marked [+CLITIC] in the list implies that these elements are eligible hosts and the ones marked [-CLITIC] are not. The prosodic/affixal nature of these wh- words is not always easy to pin down. For instance, the only clear element marked [+CLITIC] in the list below and therefore a clitic host is the relative *n-* which is not even syllabic consisting of a single consonant. This complementiser is a prosodic proclitic in that its use triggers the clitic to appear in a position preceding the verb. Others appear somewhat problematic. For instance, *maʁa* ‘why’, *mani* ‘where’ consist of two syllables yet they are [+CLITIC]. Other elements such as *mara* ‘if’ and *maʁa* ‘but’ have the same number of syllables but are [-CLITIC]. This typology is further complicated by other different elements such as *niʁ* ‘or’ and *qa* ‘that’ with a single syllable but are [-CLITIC]. So, there does not seem to be a clear pattern that could allow us to pursue the hypothesis based on the prosodic affixal/prosodic nature of the host. However, a careful examination of the wh- words reveals that there is more into these elements than their surface representation appears to suggest. These are known to be morphosyntactically complex often consisting of atomic morphemes referring to specific information within the CP projection. These morphemes undergo reanalysis

and subsequently acquire the surface meaning of what appears to be a single wh- word. An approach along these lines will unravel interesting facts about cliticization.

El Hankari and Ouhalla (E & O) (2012) discuss at length the morphosyntax of wh- words and clauses in a few Berber languages relative to an interesting language-specific phenomenon they refer to as ‘Wh- clitic-doubling and Wh- cliticization’⁷⁸. They demonstrate that elements which appear to be wh-phrasal categories are derived and compositional. These words usually consist of the invariable wh *m-* in the Spec, CP, a complementiser and an additional doubled wh- preposition in C. In view of this, E&O propose a uniform morphosyntactic decomposition of the structure of wh- words like the one in (37):

(37)

SPEC,CP		C		SURFACE	SURFACE	CLITIC
WH-	C	WH-P		FORM	MEANING	
(a) m-	-a	n-i- ‘of-to _[DAT] ’		m-a-n-i	‘where’	[+]
(b) m-	-a	ka- ‘to’ _[ALLAT]		m-a-ka-	‘why’	[+]
(c) m-	Ø	r(i)- ‘at’		m-ri-	‘if’	[+]
(d) m-	-i/a	mi- _[WH,DAT]		m-a-m-i-	‘why’	[+]
(e) m-	-i	z(i)- ‘with’		m-i-zi-	‘why’	[+]
(f) m-	-i	x- ‘on’		m-i-x-	‘why’	[+]
(h) m-	u	x- ‘on’		m-u-x-	‘how’	[+]
(i) m-	Ø	r- ‘at’ + mi-		m-r-mi-	‘when’ _[+INTER]	[+]
(k) u-	-a	mi- _[WH-DAT]		u-a-mi-	‘when’ _[RELATIVE]	[+]

After exploring the syntactic structure of the wh- words, the first observation regarding the cliticization property of all wh- elements in (37) is that their presence in the clause makes the clitic precede the verb which implies that they are all prosodic hosts of the clitic. This is illustrated in the last column of the table where these wh- words are all labelled [+CLITIC]. We are now able to address the question of why these elements are prosodic hosts of the clitic following its syntactic movement to the left of the verb. As the careful reader may have observed, all the wh- elements in (37) involve a (wh) preposition at the end. Important is that prepositions in

⁷⁸ This kind of cliticisation is associated with wh- clauses and targets the CP domain. El Hankari and Ouhalla (2012) show that the extraction of the dative and other preposition arguments leads to two instances of wh-. One wh- word is base generated in the Spec,CP and the other is a derived wh- occupying C together with the complementiser.

Berber are inherently prosodic clitics in the sense that they are more like prefixes to the lexical DPs they select. More specifically, they are proclitics which allows them to procliticize with an enclitic and therefore cancelling each other's clitic requirement. Section four provides a comprehensive study of prepositions, which confirms this fact. An example demonstrating the derivation which involves a *wh*- word is illustrated in (38a) with the corresponding structure as in (38b):

- (38) a. *m-i-x- θn ð-g^wθa?*
 WH-COMP-on them.CL.OBJ 3.F.SG-hit.PERF
 ‘Why did she hit them?’
- b. [_{CP} *m- C, -i*] [_{C'} *C x-*] [_{TP} *T, -θn x- ðg^wθa*]
 wh- COMP on them ~~on~~ she.hit
 [_{VP} *v x- -θn ð-g^wθa*] [_{VP} *V -θn x- ð-g^wθa*]
 on them she.hit them on she.hit
 [_{DP} *θn*] [_{PP} *P, x- ~~m-~~]]]]].*
 them on wh-

The *wh*- phrasal element *m-* undergoes operator movement from a lower position within the PP to the Spec, CP and the complementiser *-i-* is in C. Two clitics are involved in that sentence, which are the object pronoun *-θn* ‘them’ and the locative preposition *x-* ‘on’ both of which are base generated within the VP. As a clitic, and consistent with the analysis proposed, the preposition moves to the left of the verb in V followed by the object pronoun. The whole complex undergoes further movement to T via *v*. The locative preposition undergoes further movement to C in *wh*- clauses to check the *wh*- feature (E&O 2012), which explains its position preceding the clitic pronoun. Since the preposition is to the left of the clitic pronoun, and given that the preposition is a proclitic, the pronoun encliticizes to it and the combination is no longer a clitic. Since nothing goes wrong in phonology, the higher copy of the clitic is then pronounced yielding the expected order: locative preposition>clitic pronoun>verb. The combination of the proclitic preposition and the enclitic is like the cases discussed in the previous section relative to the cliticization of the future and negation and additional similar cases from other clitic languages.

Following our discussion of the complex nature of the *wh*- words, the clitic implications of other bare complementisers is not problematic anymore. We have the relative complementiser *n-* and *i(g)-* discussed earlier are both clitic hosts. This is expected since these are (prosodic) proclitics, which conveniently combine with a syntactic enclitic and their clitic requirement

is then satisfied from within. The affixal nature of these complementisers is easily noticeable from their phonological form consisting of a single phoneme/sound. Similarly, the conjunctions *mara* ‘if’ and *ma/a* ‘but’, *nix* ‘or’ and *qa* ‘that’ are also bare complementisers that cannot be decomposed. Furthermore, they are not affixal and therefore cannot be prosodic hosts. Consequently, the clitics always follow the verb when one of these elements is used in the clause. The fact that elements that are not clitic host are not affixal implies that they are prosodic words that can receive stress independently. I should also add that these elements can be separated generally from the rest of the sentence by epenthetical expressions, which may suggest they do not belong the same intonational phrase as the rest of the sentence. If this is true, the fact that they are not are not clitic hosts will be expected. In this case, the higher copy of the clitic still remains stranded in the initial position of the its intonational phrase. An example illustrating this issue using *mara* ‘if’ as an example is provided in (39):

- (39) i-nna -sn mara -as
 3.M.SG-tell.PERF. 3.M.PL.DAT if 3.M.SG.DAT
 ð-dʒf -as ...
 3.M.F-divorce.PERF 3.SG.DAT
 ‘He told them if she divorced him ...’

The other three complementisers all behave the same. So, it turns out that only wh- elements that end with a preposition can be clitic hosts simply because prepositions are all proclitics. The viability and importance of the generalisation according to which only prosodic proclitics can be clitic hosts is that it captures the V2 system available to some wh- and embedded clauses examined in the previous chapter. As pointed out there, only complementisers that are clitic hosts trigger the V2 phenomenon. So, it appears that cliticization and V2 share the same PF constraint.

7.4.5 Cliticization: more complex wh- words

One last issue regarding wh- words which we showed in the previous section to be syntactically complex can combine further with other wh- words forming even larger and more complex constructions. This combination undergoes further reanalysis yielding a productive semantic meaning of these words, as in (41)-(43):

- (40) *mani*- ‘where’ + *ma* ‘whether’ → *manima* ‘wherever’.

- (41) *ma*- ‘if’ + *n-wn* ‘of-that.one’ + *ma* ‘whether’ → *manwnma* ‘whoever’.

(42) *min-* ‘what’ + *ma* ‘whether’ → *minma* ‘whatever’

(43) *mrmi* ‘when’ + *ma* ‘whether’ → *mrmina* ‘whenever’.

When the *wh-* words above are used in sentences, they display the same behaviour with respect to cliticization in the sense that they are not clitic hosts. This can be seen from the data below in (44), where the clitic object follows the verb.

- (44) a. *manima* ~~-0n~~ i-zri -0n.
 wherever ~~them.OBJ~~ 3M.SG-see.PERF them.OBJ
 ‘Whenever he saw them.’
- b. *manwnma* ~~-0n~~ i-zri -0n.
 whoever ~~them.OBJ~~ 3M.SG-see.PERF them.OBJ
 ‘Whoever saw them.’
- c. *minma* ~~-0n~~ i-zri -0n.
 whatever ~~them.OBJ~~ 3M.SG-see.PERF them.OBJ
 ‘Whatever he saw them.’
- d. *mrmina* ~~-0n~~ i-zri -0n.
 whenever ~~them.OBJ~~ 3M.SG-see.PERF them.OBJ.
 ‘Whenever he saw them.’

Under the proposed analysis, where clitics are left-adjoined to the verb, this implies that the lower copy of the clitic is pronounced. This is expected in that these *wh-* words are proper phonological words, but these form their own intonational phrase that is separate from the rest of the sentence, as in (45):

- (45) *manima*, ~~ɬ~~ i-awi it.
 wherever ~~3.F.SG.OBJ~~ 3.M.SG-take 3.F.SG.OBJ
 ‘He will take her, wherever (she wants).’

The *wh-* word in the sentence above is realised with a clear pause between it and the rest of the sentence, expressed here by comma, which indicates that it forms its own intonational phrase. The same applies to all other *wh-* words in (44). It should be pointed out also that all these *wh-* words can be dislocated to the right of the clause, which is further evidence that they form their own intonational phrase. Under the proposed analysis, the higher copy of the clitic object is still stranded in the initial position of its intonational phrase which motivates the pronunciation of the lower copy.

7.4.6 Cliticization: lexical roots

As discussed in chapter four, kinship nouns in Berber form their own subclass. These are inalienable relational nouns consisting of an affixal lexical root and a possessive pronoun. Similar examples to the ones discussed in chapter four are illustrated, as in (46)–(48):

- | | |
|---|--|
| (46) a. aβa-s.
father-3M.SG.DAT
'His/her son.' | b. ymma-s.
mother-3M.SG.DAT
'His/her mother.' |
| (47) a. mi-x.
son-3M.SG.DAT
'Your son.' | b. ydʒi-x.
daughter-3M.SG.DAT
'Your daughter.' |
| (48) a. uma-θnɛ.
brother-1PL.DAT
'Our brother.' | b. wʃɛma-θnɛ.
daughter-1PL.DAT
'Our daughter.' |

The lexical root is the possessum and the pronoun identifies the possessor DP. The relevance of this noun set to cliticization comes from the fact that they select dative clitics, which are used as possessive pronouns. Since dative clitics in this particular case have a fixed distribution, in that they cannot be separated from their lexical roots, one may argue that these have undergone some process of reanalysis and therefore should be kept separate from genuine syntactic clitics examined here. The fact that these pronouns have a fixed position can be seen from constructions which make use of kinship nouns as arguments, as in (49):

- (49) aθ- θ-zar aβa- -s.
FUT 3F.SG-see.PERF father 3SG.DAT
'She will see her father.'

If the dative pronoun was a clitic, we would expect it to undergo the same movement as other clitics to the left of the verb. From there, it would cliticize to the future morpheme marker at PF in the usual fashion. This possibility does not seem to be supported by the facts in (49). In view of this, one could assume that this pronominal set may have been grammaticalized and that the dative pronouns in this case are simply used as possessive pronouns.

Despite the typological facts discussed above, the Copy-and-delete analysis proposed in this chapter makes it tempting to treat these pronouns as dative

clitics. Suppose that the dative pronoun in (49) undergoes the same clitic movement in the usual fashion, as in (50):

(50) aǝ- s [VP v ǝ-zar] [VP V, ~~s-ǝ-zar~~ [DP aβa-s]]].

In this case, what prevents the pronunciation of the higher copy of the clitic is the fact that kinship roots are prosodic proclitics themselves in the sense that they take an affix to their right). So, pronouncing the head in the movement chain will leave the kinship root stranded with no element to cliticize to. To avoid this constraint, the lower copy of the clitic is pronounced which shows the dative pronoun encliticized to the kinship root. It is also important to highlight the same prosodic process to the one discussed earlier. That is, the kinship root is a prosodic proclitic and the dative pronoun is an enclitic, which implies that both are not prosodic words. The two elements then combine to cancel each other's clitic requirement becoming an independent prosodic word.

Further empirical support for the analysis proposed to deal with kinship nouns comes from the way a set of common nouns interact with possession. In a nominal clause, which involves a higher DP/possessum and a lower pronominal DP/possessor, the latter is generally realised using the possessive pronoun as in (51):

(51) a-sǝir ins.
 SG-bucket 3SG.POSS
 'Her/his bucket.'

However, Tarifit has a handful of common nouns which also allow the option of selecting the dative clitic as an alternative to the possessive pronoun. This can be seen from (52):

(52) ǝ-ičamin ins/-as.
 F-behind 3SG.POSS/3SG.DAT
 'Behind him/her.'

So, the noun in the sentence above can take either the possessive pronoun or the dative clitic, as its complement. In this specific use, both pronouns imply possession⁷⁹.

⁷⁹ Other common nouns which have the option of expressing possession using a possessive or a dative pronoun includes *ǝičamin* 'behind' and *ǝaθ* 'front'. This issue was also reported from Tamazight (Guerssel 1987).

If nouns like (52) have the option of selecting the dative, and if this dative is a genuine clitic, our hypothesis predicts that this pronoun should undergo movement to the left of the verb. If this is true, the clitic pronoun is therefore expected to precede the verb when an eligible prosodic host is present to the left of the clitic. This prediction is indeed confirmed by (53):

- (53) aǎ- -as i-qqim ǎ-içamin.
 FUT. 3SG.DAT 3M.SG-sit.PERF. F-behind
 ‘He will stay behind him/her.’

The presence of the future marker makes the dative clitic appear to the right of the tense marker. As discussed in chapter four, lexical items in Berber are bound roots including the noun used as the object of the verb in (53) which selects the dative clitic. However, this noun does not behave like the affixal inalienable kinship roots discussed above but is simply a typical common noun, which inflects for number and gender prior to its merge with the dative clitic. In other words, the noun becomes a prosodic word once it gets inflected for number and gender unlike inalienable kinship nouns. In view of this fact, there is nothing that goes wrong in phonology which would prevent the pronunciation of the higher copy in (53).

7.5 Adverbial clitics

The remainder of the chapter looks at prepositions and locatives which I argue here are clitics, and how these are brought within the range of the proposed analysis. However, I also show that there are cases where these two elements do not display the usual clitic properties. In view this ambiguity, this will lead me to argue that prepositions and locatives are optional clitics like many other clitic languages.

7.5.1 Preposition clitics

Prepositions were discussed in chapter four. There, it was shown that these are prosodically deficient vocabulary items. In view of this, prepositions behave more like a prefix to the DP they select. An example illustrating the use of a preposition in a basic sentence is included in (54):

- (54)a. i-qqim x- u-zru.
 3M.SG-sit.PERF on CS-stone
 ‘He sat on the rock.’

The relevance of prepositions to the current study is that they were previously reported to be clitics (Dell and Elmedlaoui 1989, Ouhalla 1989; 2005a). Evidence in support of the claim comes from (55) below:

- (55) aǝ- x- -s i-qqim x- -s.
 FUT on 3.SG-DAT 3M.SG-sit.PERF on 3.SG-DAT
 'He will sit on it.'

The sentence consists of the locative preposition and the dative clitic as its complement. As pointed out earlier, prepositions in Berber select dative clitics as their complement when the latter is a pronoun. Important is that the presence of the future morpheme in (55) puts the preposition and the dative clitic in a position preceding the verb, and therefore behaving identically to other clitics discussed. Under the proposed analysis, the preposition and the dative pronoun are left-adjoined to the verb in the usual fashion. From there, they can prosodically combine with the future marker which explains their position preceding the verb. When nothing is to the left, the two clitics become stranded which motivates the pronunciation of the lower copy, as in (56). The locative preposition in the data below is used as an illustration but all other prepositions display the same clitic behaviour.

- (56) x- -s i-qqim x- -s.
 on 3.SG-DAT 3M.SG-sit.PERF on 3.SG-DAT
 'He sat on it.'

However, there are two other cases where prepositions do not behave like clitics. The first one is when the complement of the preposition is a lexical DP, as in (57):

- (57) aǝ- i-qqim x- u-zru.
 FUT 3M.SG-sit.PERF on CS-rock
 'He will sit on the rock.'

As can be seen, the locative preposition follows the verb despite the presence of the future morpheme which is evidence that it does not behave as a clitic. The preposition preceding the verb yields an ungrammatical sentence, as in (58):

- (58) *aǝ- x- i-qqim u-zru.
 FUT on 3M.SG-sit.PERF CS-rock
 'He will sit on the rock.'

Even though prepositions generally behave as clitics when their object is a pronoun, they have also the option of combining with the pronoun to form an independent prosodic word (proclitic + enclitic). In this case, they can be right or left-dislocated as in (59)-(60):

- (59) aǝ- i-qqim, x-s.
 FUT 3M.SG-sit.PERF on-3.SG.DAT
 ‘He will sit on it.’

- (60) x-s, i(g)- i-qqim.
 on-it COMP 3M.SG-sit.PERF
 ‘On it, he sat.’

The P + clitic combination is dislocated from the rest of the sentence, which usually occurs under special pragmatic and prosodic conditions. The combination is emphasised and acquires higher intonation contour. Cases like these were reported previously by Ouhalla (1988; 1989). In view of the facts discussed, it can then be argued that prepositions are ambiguous between clitics and non-clitics in the sense that they are optional clitics. This clitic ambiguity is not exclusive to Berber but was reported from a wide range of languages. For instance, Bošković (2001:169-170) shows that the Polish auxiliary *śmy* behaves as a clitic when preceded by a non-verbal XP but the same verbal element can either be a clitic or a suffix when hosted by the verb.

7.5.2 Locative clitics

In section 8.2.4, it was shown that locatives behave the same as other clitics in that they precede the main verb except when no host is available. This can be seen from similar data in (61)-(62):

- (61) aǝ- *ǝin* ǝ-qim ~~ǝin~~.
 FUT there 3F.SG-stay.PERF ~~there~~
 ‘She will stay there.’

- (62) ~~ǝin~~ ǝ-qim -*ǝin*.
 ~~there~~ 3F.SG-stay.PERF there
 She stayed there.’

Under our analysis, and since these locatives are adverbials located inside the VP, they should undergo the same movement operation to the left of the verb as other clitics. When a prosodic host to the left of the verb is available,

the higher copy is pronounced as in (61). When no host is available to its left, it is the lower copy which is pronounced as in (62).

However, locatives display a similar ambiguity to the one observed from prepositions. For instance, the locative *ðin*- ‘there’ has also the option of occurring after the main verb despite the presence of the future marker in (63a). The same element may also be extracted higher to mark focus, as in (67b):

- (63) a. *að-* *-θ* *i-zar*, *ðin*.
 FUT 3M.SG.OBJ 3M.SG-see there
 ‘He will see him there.’
- b. *ðin* *i(g-)* *qqim-n*.
 there COMP sit-3.M.PL
 ‘It is there where they sat/stayed.’

Note that the placement of the locative, in (63b), is a serious offender of the proposed generalisation and to the widely attested constraint which bans enclitics from occurring at the beginning of the sentence with no phonological host to their left. Furthermore, the use of the locative in the initial position of the sentence makes it receive stress independently which is not what one would expect if it was a clitic. These facts suggest that the locative in (63) may not be a clitic.

Further evidence which shows that the locative in some sentences, like the ones above, cannot be a clitic comes from some copulative sentences. Unlike English, Tarifit or Berber more broadly has a productive copulative system including nominal, verbal, and locative copulas. One of these elements that can be used in predicate constructions is the locative *ðin*- ‘there’ as in (64):

- (64) *ðin* *i-nβjiw-n* *nhara*.
 there PL-guest- PL today
 ‘There are guests today.’

(El Hankari 2015: 107)

El Hankari (2015) provides empirical evidence which shows that the locative in that sentence is tropicalized in the Spec, TP with a phonetically

null copula⁸⁰. If the locative can be tropicalized independently of the rest of the clause, this is further evidence that it does not typically behave like a clitic. It is also important that in cases where the locative is not used as a clitic, the adverbial element acquires a higher accented pitch than when it is used as a clitic. This can be seen particularly when the locative is focused or tropicalized as in (63b) and (64), respectively, which is typical of discourse marking elements.

As pointed out in our discussion of prepositions, the ambiguous nature of elements between clitics was previously reported from various clitic languages. Castro and Costa (2003: 101) show that some adverbial locatives in European Portuguese, like the ones found in Tarifit, display this ambiguity. This includes *cá* ‘here’, *lá* ‘there’ and *aqui* ‘here’. According to them, these elements are used as clitics in some cases but in others they are not, including the fact that they can occur in sentence initial and used alone as an answer to a yes/no question. Similarly, Franks and King (2001:22-23) (referring to Spencer 1991 and Browne 1993) report that the auxiliary *biti* ‘to be’ in Serbo-Croatian in its various conditional mood forms behaves as a clitic in some cases but in other cases it does not. For instance, Franks and King show that the auxiliary in question does not have an accented pitch when used as a clitic. Similar evidence is found in Tarifit with at least one of the three locatives discussed earlier in the overview (*ða* → ‘here’, *ðin* → ‘there’, *ðiha* → ‘over there’). This can be seen from (65)–(67):

(65) u(r)- ðih i-qqim ħi.
 NEG₁ over.there 3.M.SG-sit.PERF. NEG₂
 ‘He did not sit over there.’

(66) *u(r)- ðiha i-qqim ħi.
 NEG₁ over.there 3.M.SG-sit.PERF. NEG₂
 ‘He did not sit over there.’

(67) u(r)- i-qqim ħi ðiha.
 NEG₁ 3.M.SG-sit.PERF. NEG₂ over.there
 ‘He did not sit over there.’

The locative used with the sentences above is found with two different forms: *ðiha* = [strong form] and *ðih* [reduced/weak form] ‘over there’. In

⁸⁰ One of the main pieces of evidence El Hankari provides is that the locative is in complementary distribution with the subject/topic, unlike Romance locatives which allow the two elements to co-occur (Freeze 1992, Kayne 2008).

(65), only the reduced form can be used as a clitic and the strong/full form is ungrammatical when used in a position preceding the verb (i.e. when it is a clitic), as in (66). The reduced version implies that it is not accented and therefore behaving like the copulative clitic case in Serbo-Croatian. The full form of the locative is only found when the latter is used in a position following the verb (i.e. when the locative is not a clitic), as in (67). I then conclude that locatives and prepositions at least in Tarifit Berber can be added to the list of elements found in other languages that are ambiguous between clitics and non-clitics.

7.6 Conclusion

The chapter examined all the clitic paradigms in Tarifit, including pronouns, directional, locatives and prepositions. The analysis argues that these clitics are base generated inside the VP. Based on the fact that they are verbal clitics, these need to be left-adjoined to the verb in the syntax for licensing purposes. As for their phonological implications, the analysis makes use of copy theory of movement, according to which the higher copy of the clitics is pronounced when an eligible host to the left is present. If no host is available, the clitics remain stranded in the initial position which motivates the pronunciation of the lower copy.

Crucial to the analysis is a language-specific PF constraint which requires the host to be a prosodic proclitic. This prosodically merge with the derived enclitics and the combination is no longer a clitic. The significance of this constraint is that it accounts for cases where an element to the left is available, yet the clitics follow the verb. This hypothesis was also used to capture the syntactically complex *wh*- words. Even though many of these elements appeared phonologically independent but are still clitic hosts, a careful investigation of the structure of these words revealed a systematic behaviour whereby only elements which involve a preposition at the end are hosts. In other words, the clitics are hosted by the prepositions which are all proclitics and not by the whole *wh*- word.

The merit of the hypothesis which mainly relies on the prosodic property of the host is further extended to the inalienable kinship nouns, which select dative clitics as their possessive pronouns. Although these elements appear to display a fixed position behaving as prefixes to kinship roots, I showed that the analysis proposed for other clitics can still be applied to these clitics in the sense they are still left-adjoined to the verb in the usual fashion. However, pronouncing the higher copy of the dative clitics would leave the proclitic inalienable kinship root stranded with no element to cliticize to. To

avoid this constraint, phonology ensures that the lower copy of the dative clitic is pronounced.

Furthermore, prepositions and locatives also share the same properties with other clitics in that they appear to the left of the verb in the relevant syntactic contexts. In some other syntactic cases, however, these elements display no evidence of clitic movement. Based on this fact, it was concluded that locatives and prepositions are ambiguous between clitics and non-clitics like many other clitic languages.

CAUSATIVITY

8.1 Introduction

This chapter looks at causativity and transitivity in Tarifit. Like many other languages, Tarifit (or Berber more broadly) has the morpheme *s-* which marks the causative on the verb. I show that there are other verbs whose causative is only syntactically marked, like English. The main function of the causative morpheme is to introduce a new argument in the clause, which is accomplished in two ways: (1) by transitivity an intransitive verb, and (2) by combining with a transitive verb to make it ditransitive. A slightly different function of the causative morpheme is that it can be used with a lexical root to derive an unergative verb (i.e. intransitive with a subject-causer).

Of particular importance is that many verbs that are typically transitive-agentive resist passivization. As an alternative to a true passive involving an agent-causer, this construction is realised by inchoative or middle passive. Other transitive verbs resist all forms of passivization and can only be used in the active voice.

To address the question as to why typical transitive verbs in a language like Tarifit resist the passive, I propose a theoretical treatment of this typology based on Pylkkänen's (2002, 2008) approach to the structure of the clause. According to this theory, there is a cross-linguistic variation regarding the verbal functional head above the lexical verb which is generally assumed to encode [VOICE] and [CAUSE]. So, some languages tend to have the two features embedded under a single projection. This parameter generally disallows the passive in that changing Voice requires re-adjusting Cause since these features are fused under a single syntactic node. This explains the question of why transitive verbs in Berber resist the passive. On the other hand, some languages have [VOICE] and [CAUSE] occupying two separate projections so these can use the passive in that changing Voice does not affect Cause in that the latter terminal is separate from Voice.

- (1) a. i-s-ŋ i-nbjiw-n.
 3M.SG-CAUS-eat.PERF PL-guest-PL
 ‘He fed the guests.’ (lit. ‘He made the guests eat.’)

- (i) i-ss-iðfi -θn.
3M.SG-CAUS-enter.PERF 3.PL.OBJ.CL
'He made them enter.'

- (3) a. *i-mhðar-n* *ɣri-n* *ð-a-mazix-θ*.
 PL-student-PL read.PERF-3M.PL F-SG-berber-F
 ‘The students studied Berber.’
- b. *i-s-ɣar* *ð-a-mazix-θ* *i- i-mhðar-n*.
 3M.SG-CAUS-teach.PERF F-SG-berber-F DAT PL-student-PL
 ‘He taught Berber to the students.’

In this case, the introduction of a new subject-causer changes the argument structure of the sentence where the original subject of the transitive verb, in (3a), becomes the dative, as in (3b), following the insertion of the causative. Note that the second internal argument equivalent to an IO is realised by the dative in Berber consisting of the preposition *i-* ‘to’ and a DP as its complement. The causative combining with a transitive verb is less productive than cases where the same morpheme combines with intransitive verbs. Cadi reports that only 25% of transitive verbs take the causative. Since the causative may combine with an intransitive or a transitive verb, there are no cases where *s-* can be applied to an intransitive verb twice to derive a transitive and a ditransitive verb, respectively. In other words, Tarifit does not allow the reduplication of the causative. This issue was reported from the major studied Berber languages.

While the two cases discussed above are similar in that the causative has an argument-introducing role, there is a different case where the same causative morpheme has a verbalising role, as in (4):

- (4) *a-wssar jin* *i-s-hiður*.
 SG-old DEM 3M.SG-CAUS-limp.IMPERF
 ‘That old man is limping’.

In the sentence above, the causative licences a lexical root to derive a verb that is intransitive. The same lexical root can be used as a noun, subject of a nominal copula, typically inflecting for number as in (5):

- (5) *a-hiðar jin* *ð-* *a-wssar*.
 SG-limp DEM N.COP SG-old
 ‘That limping man is old.’

Under the category-less hypothesis proposed in chapter three, the lexical root is interpreted as a verb when combined with the causative and as a noun when combined with number and gender. The ambiguous nature of the lexical root in cases where the causative derives an intransitive verb was reported from previous works. For instance, Guerssel (1986) claims that the

base root in cases like (4) is inherently a noun but importantly adding that it is ‘... perhaps a root.’ (Guerssel 1986: 85). Similarly, Cadi (1987) argued that the base root is a noun but later on argued that these are verbs (Cadi 1990) and the fact that the morpheme is a word-deriving function makes the causative in this particular case derivational in nature. The distinction between causatives that have an argument-introducing function and causatives that have a verb-deriving function are generally referred to as productive and lexical causatives, respectively. This distinction was reported from various languages including Japanese (Miyagawa 1989, Harley 2006, Pylkkänen 2002 and 2008), Finnish (Pylkkänen 2002, 2008), Hiaki (Uto-aztecan) (Harley 2017), Hungarian (Horvath and Siloni 2011b) and Turkish (Harley 2017). Note also that the so-called lexical causatives in Japanese which combine directly with the lexical root are morphologically distinct from other causatives, in that the latter correlate with the introduction of an external argument agent, unlike Berber which appears to use the same causative morpheme for two different functions (word-deriving and argument-introducing function). This issue will be revisited in section 9.6.1.

8.3 The analysis

The complex nature of the verb phrase was first proposed by Larson (1988) based on the verbs that require two internal arguments. The main purpose of Larson’s VP-shell was to (1) establish a more coherent structure where each verb-head has its own internal argument and (2) the external argument/subject is an argument of the functional head and not an argument of the lexical verb. Other works that explored the structure of the verbal domain using a similar analysis include Hale and Keyser (1993), Chomsky (1995), Kratzer (1996) among many others. Chomsky proposed a clear distinction between the verbal functional projection (vP) and its lexical counterpart (VP). The functional layer of the verb that introduces the external argument was captured by Kratzer using VoiceP as an alternative to vP. According to her, the causative-transitive construction is a Voice alternation between active and passive voice that is responsible for introducing an external agent argument. Regardless of their differences, the classical studies on the structure of the verb phrase all share the view that the verb functional head (1) has a causative meaning, (2) introduces an external argument that is an agent/causer in its specifier and (3) checks accusative case of its complement/object in Spec,VP.

Subsequent works have argued that the structure of the verb phrase is more complex than originally thought (Borer 2005b, Pylkkänen 2002; 2008,

Harley 2013; 2017 among many others). Pykkänen (2002 and 2008) explicitly argues that the functional layer of the verb which was referred to as vP or VoiceP consists of two distinct projections. A VoiceP that introduces an external (agentive) argument and checks the accusative case of the object and an additional lower functional projection whose head simply contains a semantic causative, but its presence makes no contribution to argument structure in the syntactic sense. That is, this functional head does not necessarily introduce any additional argument. In fact, Pykkänen goes further than that by proposing a taxonomy which attempts to capture some cross-linguistic variations regarding the behaviour of causatives. While Voice and Cause are possibly universal, according to her, some languages may have these two projections split in the surface representation (i.e. Voice-splitting parameter) but others may have the same projections bundled/fused in a single complex head (i.e. Voice-bundling parameter). This binary parameter is schematised, as in (6) and (7), respectively:

(6) [_{TP} T] [_{VOICEP} VOICE] [_{VP} V] [_{VP} V...]]].

(7) [_{TP} T] [_{VP/VOICEP} V/VOICE] [_{VP} V...]]].

For Voice-splitting languages, Voice introduces the external/agent argument in its specifier and the head checks accusative case of the object whereas Cause encodes causative meaning but does not necessarily contribute anything to argument structure. In other words, the presence of vP has a semantic function only denoting a causing event according to Pykkänen. As for Voice-bundling languages in which Voice and Cause are fused under a single head, that head encodes all features that are otherwise distributed among Voice and Cause for Voice-splitting languages.

The proposed parameter was based on the behaviour of causatives in many languages. For instance, it was observed that adversity causative constructions in Japanese do not refer to any agent causer. The absence of an external argument/agent was also shown from sentences where the causative occurs with unaccusative verbs whose underlying argument is an object. Pykkänen provides further evidence from Finnish where desiderative causative constructions are also used with unaccusative verbs and do not involve any external argument causer. Furthermore, Harley (2013, 2017) argues that causatives in Hiaki (Uto-Aztecan) display some properties that cannot be associated with an external argument causer. For instance, she shows that a transitive morpheme co-occurs with the passive morpheme which is evidence according to her that adjusting the passive

does not affect the transitive morpheme, which she takes as evidence that the latter is not necessarily associated with an external argument. The behaviour of these kinds of causatives from the languages mentioned receives a straightforward account under a Voice-splitting approach; the presence of an external argument is introduced by Voice whereas the causative occupies the head of CauseP. In other words, languages that have causatives without an external argument causer implies that these constructions have a CauseP but lack VoiceP. This also accounts for causatives that occur with unaccusative verbs where the underlying argument/object becomes the derived subject.

By contrast, there are many languages that show a tight correlation between Voice and Cause. This includes the fact that (1) the presence of the causative morpheme always implies the presence of an external argument causer, (2) causatives do not occur with unaccusative, verbs and most importantly (3) typical transitive agentive sentences appear to resist passivization. This will be expected if the language is Voice-bundling in that adjusting Voice would require adjusting Cause and these languages resist this option in that the two functional heads are embedded under single syntactic node so changing one syntactic feature affects the other. Harley (2017) presents evidence from Chol (Uto-Azetecan) and Persian (see also Folli, Harley and Karimi 2005). According to her, case assignment, the introduction of an external argument/agent and verbalising the lexical root are all accomplished by a single verbal functional head in Persian which she takes as evidence that this language is Voice-bundling. Furthermore, Harley also shows that Persian transitive sentences resist passivization which also suggests that the two functional heads are bundled in a single syntactic node. Some of the cross-linguistic instances and their causative variations will be revisited as the discussion unfolds.

After this brief survey of the Voice parameter-setting hypothesis, it is now natural to ask how this proposal informs our understanding of the causative system in Tarifit. In what follows, I show that the proposed hypothesis is on the right footing when Tarifit facts are examined. More specifically, I show that Tarifit is more likely to be a Voice-bundling language whereby Voice and Cause are assumed under a complex syntactic head. One of the most compelling evidence in support of the claim is the fact that the passive is almost nonexistent. That is, typical transitive agentive sentences resist passivization. The absence of the causative morpheme *s-* in constructions involving unaccusative verbs is also another piece of evidence which supports the argument that Tarifit makes use of the Voice-bundling parameter. Furthermore, I show that the specific case whereby the causative

verbalises the lexical root, seen in (4), has also the function of introducing an agent causer in that all these verbs are unergative. This is also additional evidence that the presence of the causative *s-* always correlates with an external argument causer.

8.4 The passive and detransitivization

This section looks at the interaction between transitivity and the passive. Apart from a handful of verbs that can still be passivized, possibly due to diachronic reasons, transitive causative verbs in Tarifit generally resist passivization. This behaviour has a three-way split system: (1) a set of verbs that can only be used in the active voice but blocks all forms of intransitivity including the passive, (2) another set which can be passivized using the inchoative form only and (3) an additional set which makes use of some kind of middle voice as an alternative to the true passive. Since the last two sets are not representative of a proper syntactic passive, this ultimately implies that transitive-causative verbs in Tarifit resist passivization. I take this to be one of the main pieces of evidence that Tarifit is a Voice-bundling language. To have a better picture about this typology, let us now discuss these classes in the following subsections.

8.4.1 The passive: *twa*-Verbs

Tarifit has a synthetic passive represented by *twa-*. This element was reported from various Berber languages (Cadi 1997, Guerssel 1986, Lumsden and Trigo 1987, Sadiqi 1986 among many others). Evidence that this morpheme has a passive voice function can be seen from (8):

- (8) a. ζsi -n a- $qra\beta$.
 take.PERF-3M.PL SG-bag
 ‘They took the bag.’
- b. i- twa - ζsi u- $qra\beta$.
 3M.PL-PASS-take.PERF-3M.PL CS-bag
 ‘The bag was taken.’

The verb ζsi ‘take’, in (8a), is typically transitive with a subject/agent causer used here as *pro* and an object causee. This sentence can be passivized using *twa-*, as in (8b), where the underlying object becomes the subject. Note that Tarifit does not have a *by-phrase* so the subject of the active voice disappears from the sentence when in passive. Despite the syntactic readjustments because of voice change, in (8b), the original agentive interpretation of the sentence at logical form (who is doing what to whom)

is maintained due to the presence of *twa-*. This suggests that the passive intransitive sentence in (8b) is equated with its agentive transitive counterpart in (8a).

According to our proposed theory outlined in the previous section, the possibility of having a passive morpheme that can passivize a transitive verb appears to suggest that Tarifit may be a Voice-splitting language. Under this theory, being able to passivize a transitive verb without affecting the vP that is associated with Cause would be expected if Voice and Cause are two independent syntactic heads. However, it is important to note that the use of *twa-* is marginal in Tarifit. As I show in the following sections, the vast majority of transitive – agentive verbs do not co-occur with *twa-* and therefore cannot passivize. This claim is confirmed by the handful of verbs, in (9), which are the only transitive verbs in the inventory of Tarifit that can combine with the passive morpheme.

(9)

VERBS	MEANING
çsi	‘take’
aça	‘steal’
fqð	‘miss’
tɪf	‘catch’
ttu ^w	‘forget’

This split between verbs that can be passivized and the ones that cannot, as I will be showing in the next sections, was reported by many classical studies on Berber linguistics (Basset 1952, Galland (1979 and 1987, Chaker 1984b, Bentolila 1981). However, Tarifit appears to be the Berber language where the passive is almost inexistent. Cadi (1990) shows that the passive is used more productively in Taqbaylit Berber than in Tarifit referring to Chaker (1984b). In Tamazight, for instance, passivization was reported to be possible with verbs like *ffəɛ* ‘go out’, *tcc* ‘eat’ (Lumsden and Trigo 1987: 94-95), *arzm* ‘open’ (Guerssel (1986: 88), *ssen* ‘know’, *ari* ‘write’ (Sadiqi 1986: 170-171). In Tarifit, however, these verbs all resist the passive. So, the handful of verbs seen (9) that can still be passivized may be a remnant of an older system.

One last point before exploring other verbs relative to passivization has to do with the fact that the passive *twa-* always correlates with the perfective, which receives the prototypical interpretation of past tense and cannot be

used in the imperfective. This behaviour applies to other major studied Berber languages (see references mentioned above). If *twa-* is a passive morpheme and therefore part of the verbal morphology, its relation to tense/aspect will not be surprising. However, Prasse (1973) (discussed in Cadi 1997: 191) in his work on Tuareg claims that *twa-* is historically an auxiliary verb. If this claim is true, it could be argued that Berber may not have a genuine passive morpheme which could explain its ambiguity and lack of consistency across the verbal system. This would also lend further support to the claim that at least Tarifit is a Voice-bundling language.

8.4.2 Against the passive

The strongest indication which clearly shows that Tarifit lacks the passive can be seen from the non-exhaustive list of verbs in (10). These can all be used as transitive verbs with a clear external argument that is an agent but resist passivization.

(10)

MORPHOLOGICAL CAUSATIVE		SYNTACTIC CAUSATIVE	
s-frθ	‘miss (target)’	ass	‘dress’
s-hwa	‘push down’	af	‘find’
s-iri	‘push up’	arz	‘break’
s-iðf	‘make entre’	ddəz	‘beat’
s-iwð	‘take/accompany’	g-	‘make/do’
s-mkar	‘make big’	ndəh	‘drive’
s-nkkar	‘make stand’	nəx	‘kill’
s-ndu	‘make jump’	ndər	‘bury’
s-nz	‘sell’	ʃum	‘smell’
s-rqa	‘block’	ʃʔər	‘lit’
s-ssu	‘water’	raza	‘wait’
s-ʃ	‘make eat’	rməð	‘learn’
s-nzm	‘miss’	ðfa	‘follow’
s-uðs	‘make sleep’	wzən	‘weigh’
s-xsi	‘extinguish/turn off’	zur	‘visit’

As indicated earlier, transitivity may be expressed morphologically using the causative *s-* or through syntactic means where the causative is not overtly represented. So, the verbs in the right-hand column do not have morphological causative but can still be used as transitive with the subject

as a clear agent causer⁸². The fact that these verbs resist passivization can be seen from (11)-(12):

- (11) *i-nβziw-n uðf-n.*
 PL-guest-PL enter.PERF-3M.PL.
 'The guests entered.'
- (12) *Nunža ð-ss-iðf i-nβziw-n.*
 Nunža 3F.SG-CAUSE-enter-PERF PL-guest-PL
 'Nunja made the guests enter.'

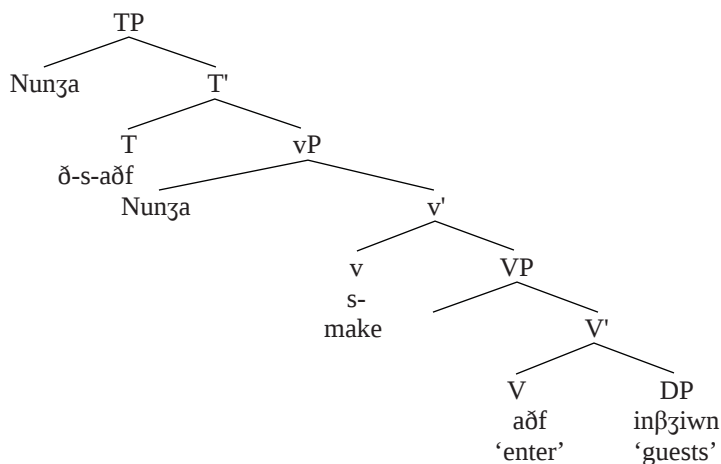
In (11), *aðf* 'enter' is simply used as an intransitive verb which can be transitivized when combined with the causative *s-*, as in (12). The presence of the causative correlates with the introduction of an external – agent argument 'Nunja'. An attempt to passivize the same sentence using the passive morpheme *twa-* yields an ungrammatical sentence, as in (13):

- (13) **i-nβziw-n twa-uðf-n.*
 PL-guest-PL PASS-enter.PERF-3M.PL.
 'The guests were entered.'

Under the classical approach where the causative introduces an external argument agent, the derivation in (12) is derived as in (14):

⁸² Many of these verbs which are typically transitive but resist passivisation were also discussed by Cadi (1997: 190) from Tarifit.

(14)



The vP is headed by the causative *s-*, with the external argument causer as its specifier and the lower VP is its complement. Note that the main verb undergoes movement from V to v to check the agentive feature, resulting in the causative morpheme showing up as a prefix to the verb in the surface representation. If the verb resists the passive, as shown in (13), and if the failure of the passive to apply is an indication that the language is Voice-bundling, it can then be argued that the head of the vP in Tarifit is syntactically complex consisting of [CAUSE] and [VOICE] which are embedded under v. Under this hypothesis, what is known as the causative *s-* is in fact the phonological spell-out of [CAUSE] and (active) [VOICE]. So, when the sentence is converted to the passive voice, this operation cannot apply in that the change affects the causative which is also contained within the same projection under v.

By contrast, passivization with Voice-splitting languages is not only allowed but the causative and passive morphemes co-occur within the same sentence. This is indeed the case for Hiaki (Uto-Aztec), as discussed by Harley (2017: 10-11). Consider the data below in (15)-(16):

- (15) Maria vaso-ta ham-ta-k.
 Maria glass-ACC break-TR-PERF
 'Maria broke the glass.'

- (16) Uu vaaso ham-ta-wa-k.
 the.NOM glass break-TR-PASS-PERF
 ‘The glass was broken/Someone broke the glass.’

In (15), Harley shows that the morpheme *-ta-* has a causative-transitive function. When the same sentence is passivized, the passive morpheme *-wa-* and the causative-transitive morpheme *-ta-* co-occur, as in (16). In view of this fact, Harley uses this as evidence to argue that Hiaki is a Voice-splitting language. So, adjusting Voice to passive with the introduction of *-wa-* does not affect the causative-transitive *-ta-* since the two morphemes occupy two distinct projections in the syntax unlike Tarifit. This variation is accounted for under a Voice-bundling/splitting parameter. More evidence of transitive verbs blocking passivization in Tarifit is discussed in the two following sections.

8.4.3 Inchoative: *n*-verbs

Many verbs in Tarifit can combine with the morpheme *n-* in the intransitive use acquiring an inchoative meaning. The inchoative property of this morpheme was pointed out by many Berberists (Guerssel 1987 from Tamazight, and Cadi 1990 and Ouhalla 1988 from Tarifit). A list of verbs which can combine with *n-* is represented as in (17)⁸³:

(17)

INCHOAT. VERBS	MEANING	INCHOAT. VERBS	MEANING
n-urzəm	‘open’	n- qɾəʔ	‘uproot’
n-ʔraq	‘disappear’	n- qsəm	‘capsize’
n-dəj	‘shame’	n- qthəʔ	‘extinct’
n- həz	‘move’	n- sxəð	‘go away’
n- hwər	‘bother’	n- ðfəs	‘fold’
n- jməʔ	‘withdraw’	n-uffa	‘hide’
n- umkə	‘become old’	n-uqəb	‘pierce’
n- qɾəb	‘turn’	n-ufsər	‘break free’

Semantically, the combination of the inchoative morpheme with the lexical root denotes a verb indicating the initiation of a process with the

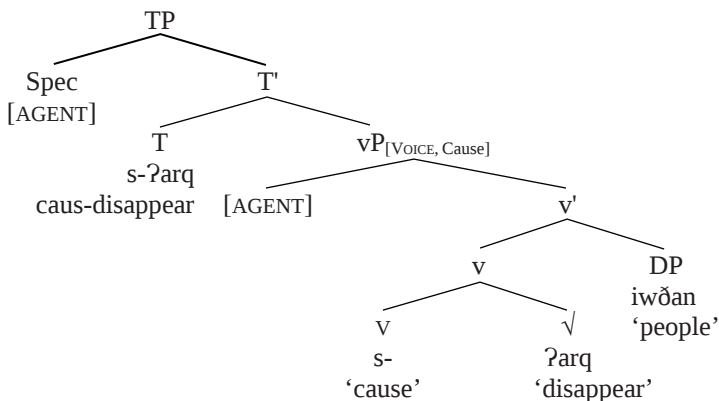
⁸³ There are also inchoative verbs that do not necessarily combine with *n-*, and inchoativeness in that case is only syntactically marked. This was also pointed out by Guerssel (1986) from Tamazight Berber.

- (20) Minu bachchaa-ro kotak zad.
 Minu child-râ beating hit
 'Minu hit the child.'
- (21) Bachche kotak xord.
 child beating collided
 'The child got hit.'

The construction, in (20), involves a transitive-causative verb. When the same sentence is passivized, an inchoative construction is used which involves no agent, as in (21). Harley also notes the alternation between the light agentive verb *zad* ‘hit’, in (20), and the inchoative non-agent light verb *xord* ‘collided’, in (21). She argues that this kind of alternation between transitive and a passive-inchoative is predicted if Persian is assumed to have a Voice-bundling parameter, in the sense that changing Voice requires changing the little-*v* which spells out the causative. Harley attributes the syntactic difference between the two sentences below to the nature of the vPs these sentences project. The transitive sentence, in (20), involves an agentive vP which embeds Voice and Cause whereas (21) has simply a non-agentive vP with an inchoative meaning. So, this alternation takes the form of a switch between two different vPs. So, the alternation between the transitive-causative and the intransitive-inchoative seen in (18) and (19), respectively, from Tarifit can also be interpreted in the same way. Sentence (18) should have a vP whose head is specified for [VOICE, CAUSE] and spelt out by *s-*. Conversely, the intransitive-inchoative sentence, in (19), has a vP whose head is specified for [INCHOATIVE] and spelt out by *n-*.

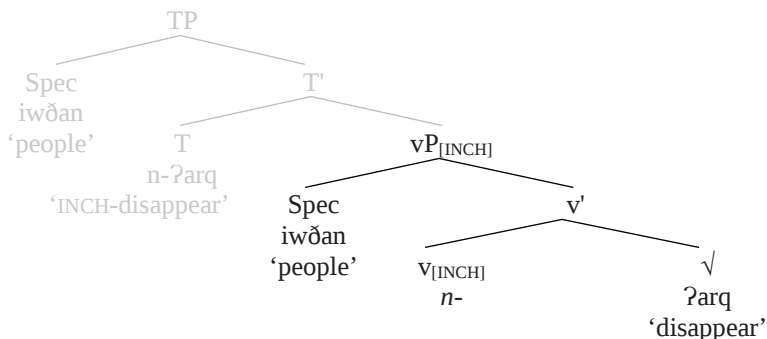
It is worth pointing out that under a lexicalist approach to verbs that alternate between transitive – causative and intransitive, the intransitive form is generally assumed to be derived from its transitive counterpart by suppressing the causer in the lexical semantic representation (Levin and Rappaport 1995). This approach may be problematic for Tarifit in that verbs like (17) and others have overt morphology in the intransitive form that is missing when the same verb is used as transitive. The opposite derivation where the transitive form of these verbs could be derived from the intransitive form is also problematic for the same reason, i.e. due to the complementary distribution between the causative and inchoative morphemes. However, we do not face this problem if the structure of the verb is assumed to be syntactically derived as per the DM framework. If we take the basic verb to consist of a category-less root supplied by the lexicon and a *v*-node as a category-defining head, it can then be argued that the interpretation of the lexical root as a transitive-causative or intransitive-inchoative is dependent on the nature of the vP that selects it. The vP that is causative-agentive requires a causer and a cause, as in (22):

(22)



As for the vP which encodes the inchoative information, this projection requires a single argument that is not necessarily an agent, as in (23):

(23)



Note that this hypothesis is based on the view that the v-head has different meanings (Harley 1995, Cuervo 2003, Folli and Harley 2006 among others). This dedicated semantics of the subcategory v would constrain the sort of complements that this functional head can take depending on whether the complement is stative or eventive⁸⁴. As can be seen, the proposed approach

⁸⁴ See Marantz (2009a, b) for an alternative approach where the functional head (i.e. v) is unspecified, and that its semantic meaning is dependent on the syntactic structure around it mainly the nature of its complement which is part of the same phase.

attributes the difference in interpretation between a causative-transitive and inchoative interpretation to the nature of the vP, which co-occurs with the lexical root. It is worth noting that there are verbs, in (17), that can take the causative *s-* and the inchoative *n-* all at once. Under a syntactic approach to morphology where one terminal node corresponds to one morpheme, verbs like these should simply have an additional vP_[CAUSE, VOICE] stacked on top of the inchoative verbal projection which introduces an agent-causer. In the next section, I discuss another class of verbs which blocks the passive voice lending further support to the claim that Tarifit is a Voice-bundling language.

8.4.4 Middle passive: *m*-verbs

What makes this set of verbs like the previous set is that the basic lexical verb alternates between transitive and a kind of intransitive morphology that has middle voice function represented by the morpheme *m-*. The latter construction is also a way for these verbs to realise their passive. A list of these verbs, which is not as productive as the previous one, is represented as in (24):

(24)

ROOTS	MEANING
m-rqa	‘meet’
m-sjjəβ	‘throw’
m-f	‘eat’
m-smh	‘forgive’
m-uwđa	‘split’
m-zar	‘see’
m-nz	‘sell’

Note that morpheme *m-* may also be used as a reciprocal marker. This observation was also made previously by Cadi (1990) from Tarifit. It is worth noting that the diachronic development from an anaphor to a marker of intransitivity is cross-linguistically common (Reinhart & Siloni 2004). Like the previous set, these verbs take the middle voice when passivized. Consider the data below in (25)-(26):

- (25) i-wđan-a s-nz-n đ-a-mur-θ nsn.
 PL-people-PL-DEM CAUS-sell.PERF-3M.PL F-SG-land-F 3M.PL.POSS
 ‘These people sold their land.’

- (26) *ð-a-mur-θ nsn ð-m-nz.*
 F-SG-land-F 3M.PL.POSS 3M.SG-MID-eat. PERF
 ‘Their land got sold.’

In (25), the sentence involves a transitive-causative verb which correlates with the presence of the highlighted causative, an external argument/agent and an object/causee. When that sentence is passivized with the underlying object becoming the subject, as in (26), the verb takes the highlighted middle voice *m-*. The presence of this morpheme makes the syntactic interpretation of (26) completely different from its transitive-causative counterpart in (25). The *m*-verb construction, in (26), has no agentive meaning. Furthermore, the external argument, which is present in the transitive sentence, in (25), is not demoted but absent or unknown, in (26). So, these verbs behave similar to the verb discussed in the previous section in two ways: (1) the alternation between transitive and intransitive shows a clear complementary distribution between the morpheme *s-*, in (25), which realises a causative-transitive verb and *m-*, in (26), which realises a middle voice; and (2) these verbs resist true syntactic passivization. Under the Voice-bundling hypothesis, this alternation is accounted for straightforwardly as demonstrated from the *n*-verbs in the previous section. Since the *v*-head realised by the causative *s-* embeds two syntactic nodes under a single complex head, Voice cannot be adjusted without affecting the $v_{[CAUSE]}$ that is part of the same projection. To get around that, the language must switch to a completely different *vP* whose property denotes a middle/stative-passive and the subject of that *vP* cannot be an agent-causer.

8.5 Causativity and unaccusative verbs

Another cross-linguistic variation between languages relative to causativity has to do with the fact that some languages tend to use causatives with unaccusative verbs. Pyllkkänen (2002: 82) discusses at length cases like these from Japanese and Finnish, as in (27):

- (27) *Musuko-ga sin-ase-rare-ta.*
 son-NOM die-CAUSE-PASS-PAST
 ‘The son was caused to die.’

In the Japanese data, in (27), the sentence involves an adversity causative but Pyllkkänen provides empirical evidence that the subject marked for nominative case is derived in that it is the underlying object of the verb. She shows that this DP is the affected argument and not the causer. According to her, the configuration in (27) does not have an external subject – agent

but still has a causative meaning, due to the presence of the causative *-ase-*. Pykkänen (2002: 86) provides additional evidence in support of the presence of the causative without an external agent causer from desiderative causatives in Finnish, as in (28):

- (28) *Maija-a laugh-tta-a.*
 Maija-PART sing-CAUSE-3SG
 ‘Maija feels like singing.’

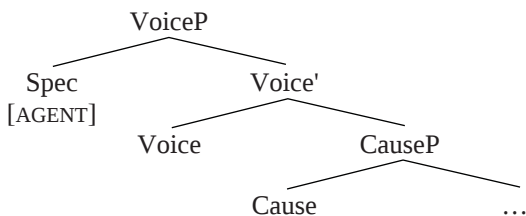
According to Pykkänen, what makes the Finnish causative construction, in (27), like its Japanese counterpart, in (27), is that it has a causative without an external argument causer. She provides evidence that the surface subject, in (28), marked for partitive case is the underlying object of the sentence, since that case in Finnish is associated with the object and not the subject. Again, we are faced with the presence of causatives without an external argument.

Additional cross-linguistic evidence in support of the presence of causatives without an agent argument is provided by Harley (2017: 14) from Chemhuevoi (Uto-Aztecan). In fact, Harley shows that this language does not only have the causative without an agent but Chemhuevoi has also sentences that have a causative without a real subject. An example of this behaviour is illustrated, as in (29):

- (29) *Iva asi huvi-tu-wa.*
 here salt song-caus-pres
 ‘Salt song is going on.’

In view of the facts discussed from Chemhuevoi, Finnish, and Japanese, where these languages use a causative morpheme without a causer (subject), Pykkänen argues that this issue is solvable if the classical hypothesis that associates the causative with an external argument is abandoned. Alternatively, Pykkänen suggests that this typology is predicted if this system is taken to be controlled by the Voice-splitting parameter. Under this hypothesis, Voice and Cause are realised as two separate syntactic heads in Japanese, Finnish and Chemhuevoi. This derivation is abstractly represented, as in (30):

- (30)



The Voice projection has an agentive feature and is therefore responsible for introducing an external argument whereas the Cause projection makes no real contribution to argument structure and its main function is semantic, denoting a causing event according to Pylkkänen (see also Harley 2013; 2017, and Marantz and Wood 2017 for a similar analysis). If the languages discussed above are taken to have a Voice-splitting parameter, as argued by the relevant authors, the sentences discussed above, (27)-(29), which all involve an intransitive-unaccusative verb co-occurring with a causative morpheme should all have a CauseP but no VoiceP. CauseP is headed by Cause which correlates with a causing event but no causer. This functional head in turn selects a lexical root with the DP complement as the causee. The higher functional layer headed by Voice is only needed when a construction involves an agent-causer.

As a first diagnostic using the passive voice in the previous section, it was concluded that Tarifit is a Voice-bundling language, since transitive causative verbs resist passivization. Many verbs require readjusting *v* into an inchoative or middle/stative-passive as an alternative to the true passive. Other causative – transitive verbs resist any form of passive and can only be used in the active voice. We provided this as a first piece of evidence that Voice and Cause are contained within the same syntactic head since changing one feature affects the other. If Tarifit is a Voice-bundling language as we argue, and if this is true, it should then be expected that unaccusative verbs like the ones discussed above from Japanese, Finnish and Chemhuvévi should not appear with the causative *s-* since this morpheme is specified for both [+VOICE] and [+CAUSE]. Allowing this option will mean that unaccusative-intransitive verbs have an external argument/subject which would be problematic. Indeed, the desirable results are borne out. There is evidence that the Tarifit causative *s-* never occurs with this set of verbs. A list of unaccusative verbs is included, as in (31):

(31)

VERB	MEANING	VERB	MEANING
ayr	'hang'	gg ^w	'knead'
azu	'skin'	hri	'grind'
ari	'write'	ndər	'burry'
çarf	'tie'	qəs	'cut'
çnəf	'grill'	qqən	'close'
çarz	'plough'	kəz	'dig'
çra	'rent'	ʃfar	'fill'
ddəz	'pound'	xwa	'empty'

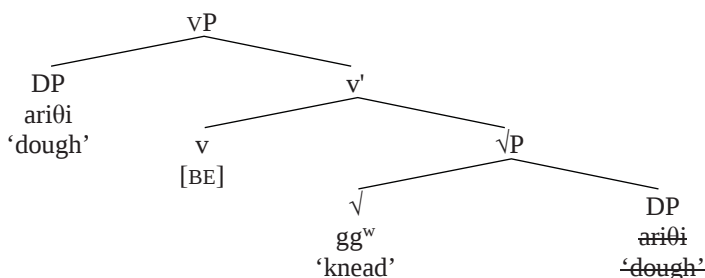
When used in the intransitive clause, as in (32), these verbs do not take the causative *s-*. Including this morpheme yields an ungrammatical sentence, as in (33):

- (32) a-riθi i-gg^wa.
 SG-dough 3M.SG-knead.PERF
 'The dough is kneaded.'

- (33) *a-riθi i-s-gg^wa.
 SG-dough 3M.SG-CAUSE-knead.PERF
 'The dough is kneaded.'

Under the proposed theory whereby Tarifit is a Voice-bundling language, the fact that unaccusative verbs cannot co-occur with the causative *s-* is expected. The causative morpheme in Tarifit, as discussed earlier, is the spell-out of a complex *v*-node that embeds both Voice and Cause. So, unaccusative verbs combining with the causative *s-* would imply the presence of the $vP_{[CAUSE, VOICE]}$ that requires an external argument/agent causer. This possibility would be problematic in that unaccusative verbs have an object causee but do not have an external argument. The absence of the causative with this set of verbs in Tarifit also implies that the *vP* projection of unaccusative verbs does not involve Voice which is responsible for the introduction of an external argument/agent. These verbs should have a different *vP* whose head is likely to be stative, since these unaccusative predicates generally denote a state when used as bare intransitive verbs (Guerssel 1986). Their stative property is incompatible with the *vP* that projects the causative. So, the derivation of the intransitive-unaccusative construction, seen in (32), should look like (34):

(34)



Under the category-less hypothesis, the lexical root is interpreted as a stative verb when used next to a verbal functional head. The underlying object/causee undergoes movement to the specifier of the verbal projection becoming the surface subject. So, what prevents the causative *s-* from co-occurring with verbs like the ones seen in (31) is that it would fail to license the surface subject which is not agent. By contrast, the Voice-splitting parameter available to languages like Finnish, Japanese or Chemhuevi allows the causative with unaccusative verbs freely since Cause is independent from Voice, which is responsible for introducing the subject/agent.

8.6 Causativity and unergative verbs

Another function of causatives that is widely attested in many languages is that they can combine with a lexical root to derive a simple intransitive verb. In other words, the causative has a word-deriving role and is not an argument-introducer. Pylkkänen uses similar evidence to the data discussed from Japanese in the previous section relative to unaccusative verbs. She shows that what is known as lexical causatives in that language have an adversity meaning are also found in other verbs that are not necessarily unaccusative. More specifically, this causative is used with unergative verbs. Pylkkänen identifies a cross-linguistic variation with this set of verbs using the two sentences below in (35)-(36) from Japanese and English, respectively (Pylkkänen 2002: 108):

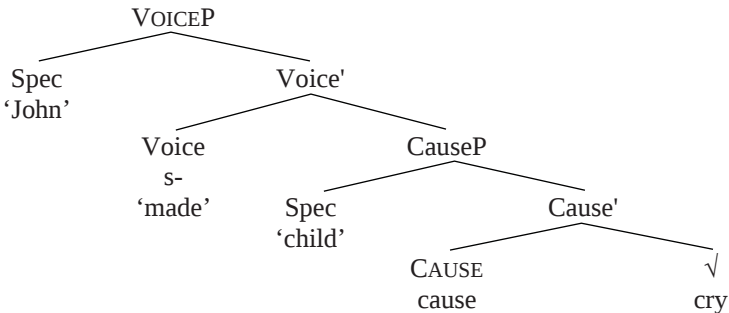
- (35) John-ga kodomo-o nak-asi-ta.
 John-NOM child-ACC cry-CAUSE-PAST
 'John made the child cry.'

- (36) *John cried the child.

She observes that Japanese can causativize unergative verbs, as in (35) but causativizing the same sentence in English is not allowed, as in (36). There are two issues at stake here. First, unergative verbs are generally considered to have a single argument that is a subject/agent but Japanese data, in (35), appears to suggest that unergative verbs have two arguments: agent-causer and an object-causee. Secondly, why is it that some languages like Japanese can transitivize unergative verbs but others like English are not. When Tarifit facts are examined, I show that unergative verbs in that language behave like English. That is, these verbs take a single argument only. Pylkkänen argues that the Voice-bundling/splitting parameter can handle this cross-linguistic variation.

According to Pylkkänen, the hypothesis that Japanese is a Voice-splitting language provides a structure that can accommodate all the elements involved. So, she proposes the derivation below, in (37), for the Japanese sentence in (35):

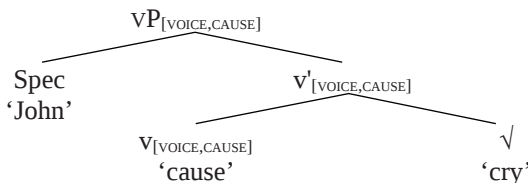
(37)



On the assumption that the lexical root is category-neutral, the category-defining head $v_{[CAUSE]}$ verbalises the root and the complement/causee is introduced in the specifier of the CauseP whereas the subject/causer is introduced higher in the specifier of the VoiceP.

As for the question of why a system like the one found in English where unergative verbs cannot be causativized/transitivized, Pylkkänen argues that this is also predicted by the hypothesis if English is taken to be a Voice-bundling language. The structure of the English unergative construction, in (36), is schematised, as in (37):

(38)



This configuration has only a single vP whose complex head groups together [VOICE] and [CAUSE]. Since the head of vP has an agent feature, due to the presence of Voice, the subject/agent is introduced in the specifier of that vP. So, the question of why unergative verbs in a language like English cannot be causativized is predicted under the Voice-bundling parameter. This option is not allowed because the syntactic structure, in (38), does not provide a position for it. In view of the complex nature of the verbal functional head, this projection has two functions: (1) introducing an external argument in the specifier position, and (2) verbalising the lexical root. This is also a way of providing a syntactic analysis to what is known as lexical causatives. This allows the interpretation of the unergative-intransitive sentence ‘John cried’ with the presence of an external argument/causer that is causing the event of ‘crying’, even if the verb is intransitive. After discussing the cross-linguistic variation of the causative between English and Japanese, let us now test the viability of the analysis on unergative verbs in Tarifit.

8.6.1 Causativized roots in Tarifit

As pointed out in section 9.2, Tarifit has a kind of causative that derives an intransitive verb without necessarily introducing an additional argument. An example like the one provided earlier is included, as in (39):

- (39) a-frux i-s-kuj.
 SG-child 3M.SG-CAUS-cry.PERF
 ‘The child cried.’

The verb in that construction denotes unergativity in that it involves a subject that is a causer, i.e. ‘the subject caused the cry’. The existence of s-verbs without an object causee was pointed out previously by Guerssel (1986) from Tamazight and Cadi (1987, 1997) from Tarifit. So, the causative-intransitive verb, in (39), is like its English counterpart except that the causative in English is not overtly marked. A more comprehensive list

of lexical roots, which appear with the causative morpheme becoming intransitive verbs is included, as in (40):

(40)

ROOTS	MEANING	ROOTS	MEANING
-hiðar	‘limp’	-kuj	‘weep’
-kufs	‘saliva’	-muharθ	‘moo’
-harθ	‘puff’	-θn	‘bark’
-yəm	‘grow’	-ʕuʕ	‘bray’
-mta	‘tear’	-miaʕu	‘meow’
-riwriw	‘ululate’	-qaqa	‘cluck’
-qiʒzuw	‘creak’	-war	‘talk’

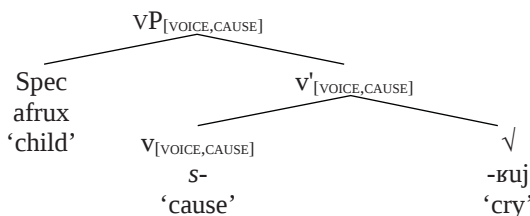
As can be seen from the meaning of these roots, the process of the causative deriving intransitive-unergative verbs is productive with onomatopoeic roots mainly, those denoting sounds of humans and other species. Syntactically, the combination of these roots with the causative *s-* makes them behave as a predictable natural class, in that they are all intransitive verbs but still involve a subject that is an agent. In other words, the combination of the causative and the root yields an unergative verb.

As pointed out earlier, unergative verbs in Tarifit behave like English in that they cannot be transitivized. An attempt to transitivize the verb in (39) with the introduction of an additional causative yields an ungrammatical sentence as in (41):

- (41) *i-s-s-kuj a-frux.
 3M.SG-CAUS-cry.PERF SG-child
 ‘He cried the child.’

If Tarifit is a Voice-bundling language, as we argue, this will be expected. The presence of the object ‘child’ is what rules out the construction, in (41), in that this argument cannot be accommodated in a Voice-bundling structure. Since the vP responsible for introducing an external argument is specified for both Voice and Cause, unergative sentences in Tarifit have the same structure as the one proposed for English, in (38), and reproduced as in (42):

(42)



Aside from syntactic evidence, there is cross-linguistic morphological evidence which lends further support to the proposed theory. For instance, Japanese has two different morphological causatives known as productive and lexical causatives (see references mentioned earlier). The productive causative correlates with the introduction of an external argument agent whereas the lexical causative simply derives a verb with adversity meaning but involves no agent/subject. Under the proposed analysis, Japanese provides morphological evidence for a Voice-splitting system with a one-to-one relation between morphology and syntax (one morpheme ↔ one syntactic feature). That is, Japanese has a causative morpheme which introduces an external argument (i.e. head of VoiceP) and a separate causative that has a semantic cause (i.e. head of CauseP). By contrast, Tarifit has a single causative morpheme which spells out both [CAUSE] and [VOICE] (one morpheme ↔ two syntactic features). The other prediction of the proposed analysis includes the fact that Tarifit has no cases where the causative can be used without the presence of an external argument causer. This is also borne out by the Voice-bundling system. The presence of the causative without an agent-causer implies that the causative morpheme occupies the head of the CauseP that is separate from VoiceP. This typology is true for Voice-splitting languages.

8.7 Conclusion

This chapter looked at the causative system in Tarifit, which is argued to be a Voice-bundling language. The theory accounted for several phenomena which remained unresolved in the Berber linguistic literature. First, transitive-agentive verbs resisting passivization is attributed to the fact that T is a Voice-bundling language. On the assumption that [VOICE] and [CAUSE] are embedded under a single syntactic terminal, the change of Voice from active to passive affects Cause.

Secondly, the theory accounted for an issue having to do with intransitive-unaccusative verbs. It was shown that some languages allow the causative morpheme to co-occur with this set of verbs whose argument is an underlying object. This will be expected if these languages are Voice-splitting in that the causative morpheme in this parameter does not necessarily imply an agent-causer. By contrast, Tarifit does not allow this option and therefore the causative never co-occurs with this set of verbs. This typology is predicted if Tarifit is a Voice-bundling language in that including the causative morpheme implies the presence of an agent, and this cannot be possible with intransitive-unaccusative verbs whose underlying argument is an object-causee.

Thirdly, the chapter showed how the cross-linguistic variation regarding the behaviour of unergative verbs are brought within the range of the analysis. Some languages discussed allow this set of verbs to be transitivized. If this system is assumed to have a Voice-splitting parameter, this will be expected in that the causative morpheme with these languages has a semantic effect only and transitivizing unergative verbs implies the introduction of a separate structure headed by Voice. Under a Voice-bundling parameter, the fact that languages which do not allow unergative verbs to be transitive is predicted. Taking Tarifit to have this parameter, and since the causative morpheme encodes both Voice and Cause, there will be no other syntactic head in the derivation that could introduce an additional argument.

CONCLUSION

In this book, I first showed how the morphological system of Tarifit is extremely amenable to a syntax-based approach in the sense of DM. One of the main properties which justifies the deployment of the proposed theory is the ambiguous nature of lexical roots between the nominal and the verbal category. I showed how this typology is accounted for straightforwardly if these lexical roots are category-neutral and that their status as nouns or verbs is determined by their syntactic environment. The proposed theory for lexical roots in Tarifit obviates the need for redundantly listing these lexical items both as nouns and verbs, as would be expected under a lexicalist approach. This hypothesis was pursued further with the grammatical description of Tarifit in chapter four, which ultimately led me to propose an optimal binary division of parts of speech that is either nominal or verbal.

Under a Late Insertion approach where syntactic terminals are provided with their phonological expressions in the mapping to the PF interface, this hypothesis was crucial to the investigation of the morphology of noun classes. The view that vocabulary items compete for insertion on their syntactic nodes, without the need for any possible derivational rules, made this morphology economically appealing. Although some cases of plural display what appeared to be discontinuous kind of morphology affecting multiple vowels inside the root, I argued for an analysis that is essentially concatenative. This approach crucially identified some independently motivated phonological processes which may alter an underlying regular morphological paradigm. Since these phonological processes occur following vocabulary insertion and should therefore be kept separate from the underlying morphological system, a more regular affix-based morphology emerges giving rise to predictable natural classes.

Chapter six investigated the CS. The first part disputed the hypotheses which associate this phenomenon with case and DP, in the sense that the CS morpheme is a D-head. Alternatively, it was argued that the CS is simply a language-specific property having to do with syntactic constituency. More specifically, this configuration involves the DP and a higher c-commanding head that must be T or P. Once these syntactic contexts are identified, all

cases of the DP relative to the State issue are predicted. Furthermore, the chapter looked at the phonological implications of the CS. It was argued that when the configuration is sent to PF for interpretation, the DP and its c-commanding head are spelt out as one phonological word. The CS as a syntactic configuration is then formalized within the framework adopted by investigating the relative hierarchical depth within the structure of nouns in Tarifit. It was argued that the CS targets the grammatical domain of the noun, i.e. the functional category-defining head, but the lexical root is excluded from this structural relation. This is expected within the present framework if roots are category-less and devoid of any grammatical information. So, some CS marking alternations which appeared to be morpho-phonological were argued to be syntactically constrained.

Chapter seven looked at the word order. The novel claim made in that chapter was that Tarifit, unlike other major studied Berber languages, has now shifted to a topic-prominent configurational system, with VSO becoming increasingly marginal. The topic feature was argued to be in the Spec, TP, which may be checked by the lexical subject or by an object clitic when the internal argument is a pronoun. Based on this fact, the alternation in order between SVO and $V_{[CL.OBJ]}S$ is then borne out. By contrast, some *wh*- and embedded clauses require the verb to precede the lexical subject. Empirical evidence was provided which showed that the position of the verb in these clauses is an instance of V2. Of particular importance is that this operation has some phonological implications. More specifically, it only applies when C is not filled or filled with a complementiser that is affixal. A unified analysis which makes use of copy theory of movement is then proposed. If the verb moves to C to check structural focus, the higher copy is pronounced when C is not filled or filled with an affixal complementiser. Outside these environments, it is the lower copy of the verb that is pronounced to avoid this phonological violation. The analysis is then extended to the topic which is mainly associated with the object pronoun and therefore undergoes movement to Spec,TP. Due to its prosodic deficiency, it is argued that this pronoun cannot be pronounced in its derived position with no host to its left which motivates the pronunciation of the lower copy yielding the $V > \text{Clitic} > S$ order.

The clitic system was subject to an empirical investigation in chapter eight. In that study, I looked at all the clitic paradigms found in Tarifit: the object and dative pronouns, the locatives, the directive, and the prepositions. The general assumption in the Berber linguistic tradition is that clitics undergo movement to some functional categories above the verb such as tense, negation or a complementiser. I provided evidence from Tarifit that this

movement does not apply across the board. Two crucial claims which lie at the heart of my analysis were proposed. First, I argued that clitics in Tarifit are verbal clitics based on the fact that these must be adjacent to the verb. Secondly, the placement of these clitics at the syntax-phonology interface was based on copy theory of movement, where the movement of clitics is perceived as copying. In view of this, they undergo movement from within VP and left-adjoined to the verb for licensing purposes. From there, they can prosodically combine with a host to the left if there is one. My study of clitics identified a language-specific PF constraint which requires the host to be a prosodic proclitic, which can then combine with an enclitic and the two elements cancel each other's clitic requirement. If this requirement is not met, the lower copy is pronounced yielding the V-CL order. The language-specific PF constraint identified was crucial in accounting for the discrepancy between a host and a non-host. Furthermore, the advantage of the analysis in which clitic placement is perceived as copying obviates the need for the last resort phonological movement of clitics.

Chapter nine examined causativity and transitivity. There, it was observed that verbs which are typically transitive resist the passive. I proposed to deal with this typology using the Voice-bundling/splitting hypothesis, according to which some languages have Voice and Cause bundled under a single projection, but others have these features spelt out as two separate projections. Under this approach, languages like Tarifit whose transitive verbs generally resist passivization will be expected if these are argued to have a Voice-bundling parameter. So, changing Voice affects Cause in that these features are bundled together under a single syntactic terminal. Other pieces of evidence in support the theory comes from unaccusative and unergative verbs. In that chapter, I showed that there are languages which use the causative morpheme with verbs that are typically intransitive-unaccusative. If the causative morpheme correlates with an agent-causer, as is traditionally assumed, this should not be expected in that the subject of these verbs is an underlying object-causee. It was argued that this dichotomy is solvable if these languages were assumed to have a Voice-splitting parameter, where the causative has only semantic meaning. That way, the agent-causer in this parameter is associated with Voice which projects separately above Cause. By contrast, a language like Tarifit does not allow the causative morpheme to co-occur with intransitive-unaccusative verbs. This will be expected if Tarifit is a Voice-bundling language, in that the causative morpheme encodes both Voice and Cause. Additional evidence in support of the theory comes from unergative verbs. There appears to be a parametric variation whereby some languages like Japanese can transitivity unergative verbs, but this option is not available to some other systems such

as Tarifit or English. It was argued that this variation is accounted for straightforwardly under the proposed theory. The Voice-splitting parameter should allow this option in that transitivity unergative verbs implies the introduction of a higher Voice that is separate from Cause. Therefore, this structure can provide a position for two arguments (i.e. Spec, VoiceP and Spec, CauseP). By contrast, the option of transitivity unergative verbs should not be allowed in a Voice-bundling parameter in that the subject-causer with these verbs is already introduced by the functional head which is specified for both Cause and Voice. In the case of Tarifit, this head is represented by the causative morpheme.

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